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Acorn WORLD

A94W

Wembley Exhibition Hall 1
28, 29, 30 October 1994

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Acorn COMPUTING
and
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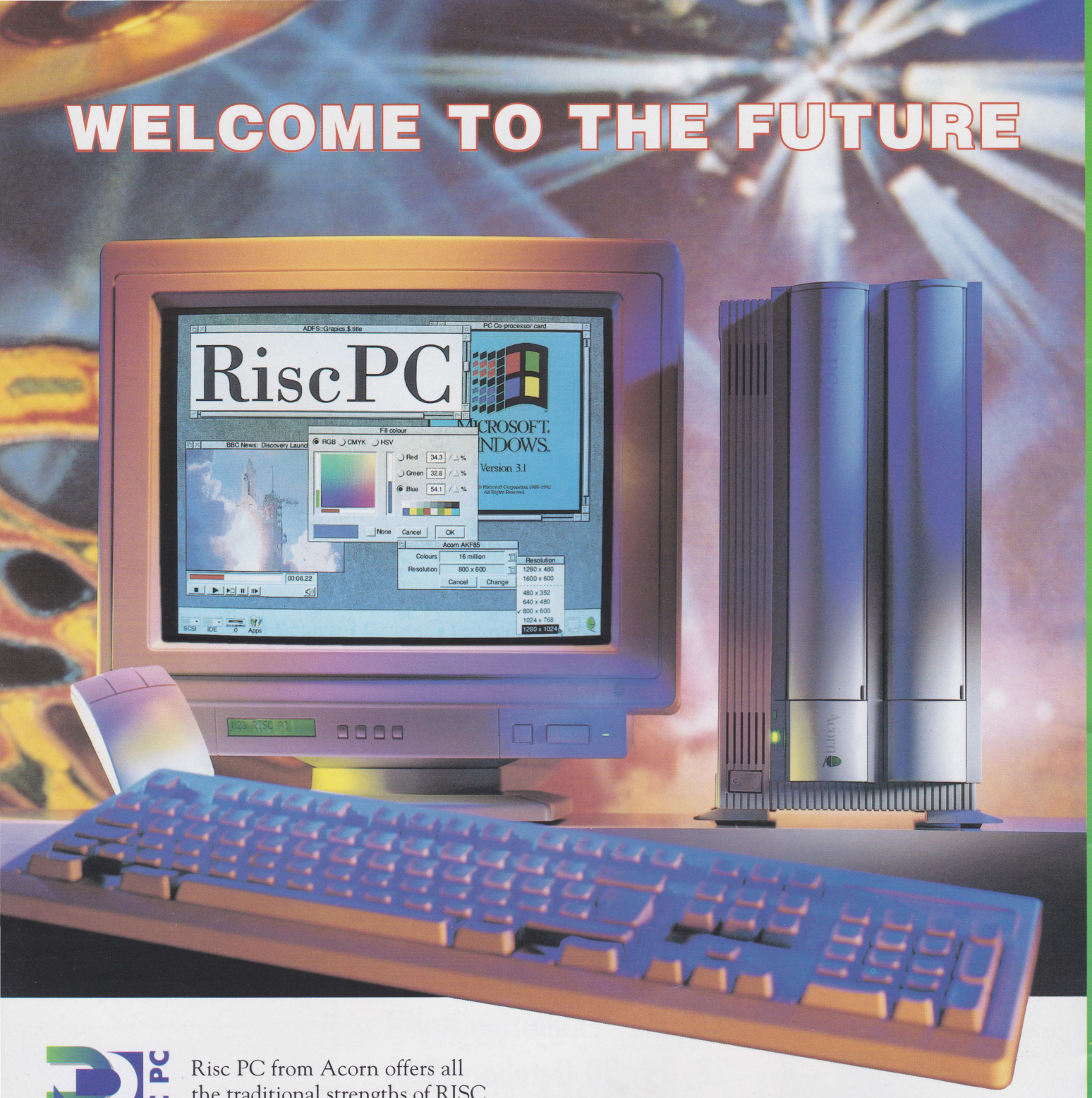
WELCOME TO THE FUTURE



RISC PC

Risc PC from Acorn offers all the traditional strengths of RISC processing, and a great deal more, **at a remarkably affordable price.**

- The world's most cost-effective, efficient 32-bit RISC computers
- Low-cost processor upgrade strategy, protecting your investment today and into the future
- RISC OS - a powerful, multi-tasking operating system, tried and tested by millions of users
- A wealth of powerful applications software from personal productivity tools to true multimedia
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- High performance multi-channel stereo sound as standard on all models
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Welcome to Risc PC from Acorn. The new generation of personal computing.

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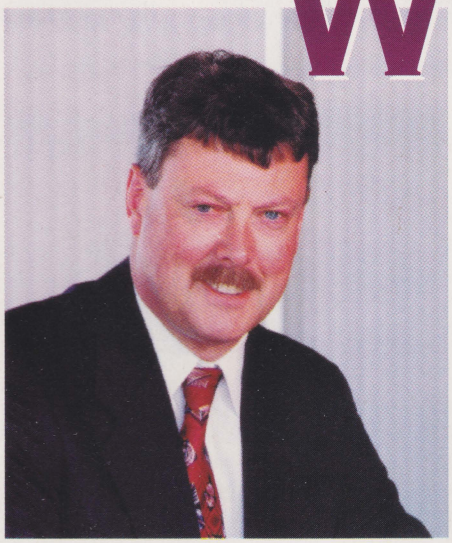
WELCOME



IT hardly seems like a year has passed since I welcomed you to the first Acorn World Show in 1993. Over the last year we have strengthened our position as the leading supplier of educational solutions, we have expanded our business into new areas, launched new products and developed new initiatives. As a consequence we have even more to show you this year.

Last year we gave experienced Acorn watchers a vision of the future, previewing the Risc PC technology in the Acorn Gallery. How many of you spotted the 24-bit graphics and enhanced real-time video animation which is now standard in the Risc PC?

This year our team of technical experts have brought together work from Acorn and Online Media to give a preview of just how we believe home entertainment and computers will integrate in the next few years. Innovation has always been one of Acorn's biggest strengths and at this year's event you can see once again our continued commitment to the technologies of the future.

With show sponsors *Acorn Computing* and *Acorn User*, this year's event is certainly the place to see the latest and best in what is being developed for Acorn platforms. Third-party partners have developed even more applications which work across the Acorn range exploiting the features of new products while, uniquely in the computing industry, retaining high levels of compatibility with the old.

Acorn World '94 has even more to offer, whether you are an experienced user or just starting out. Thank you for coming and enjoy the show.

Sam Wauchope
Managing Director

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Gaining an advantage from the start

early years

9 out of 10 schools use Acorn computers – what better recommendation can there be when choosing a system to help your child?

Now Acorn have worked closely with leading experts on educational software to design a pack especially for younger children. 'Early Years' features a range of programs that will help your child to develop literacy, numeracy and familiarity with computers at the same time as having lots of fun!

'Early Years' contains:

Early Years
(excluding monitor)
£499
including VAT

- Acorn A3010 32-bit computer with integral floppy disc drive
- 3-Button Mouse
- Talking StartWrite – word-processor
- Explore with Flossy the Frog
- A Mouse in Holland
- Doris the Dotty dog
- Amazing Maths
- Gemini
- Paint Pot

Contact your local dealer today

For details of your local dealer call 0223 254 222

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The LEARNING Curve

Acorn

ACORN WORLD SPECIAL
£50 CASHBACK OFFER
A3010 ACTION PACK
£399 INC VAT
FREE 3YEAR ON-SITE SUPPORT
HOT-LINE SUPPORT
£50 BACK!
VISIT THE ACORN SALES DESK
FREE PACK OF TDK DISCS
Acorn
PhotoView
RiscPC
RISC PC
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online media

BREAKING DO

The education demands and challenges faced by parents, teachers and children in the 1990s are unique and come on many fronts. Parents and teachers have always wanted to do the best by their children, but with the enormous amount of technology and advances which are being made year by year, which path should you take?

Beyond the battle of the systems

The situation today is very similar to that of the early days of the bicycle, when all sorts of weird and wonderful variations fired the imagination, only to be abandoned. Store cupboards throughout the country are littered with unused hardware – the casualties of the battle between systems. For many schools and parents the mutual incompatibility of computers can prove costly and frustrating. However, it is arguable that this is a natural and necessary part of the evolution of IT.

The 1990s was a turning point, with all the major computer manufacturers aiming to bridge or completely break down the barriers of mutual incompatibility. Acorn launched the multi-platform-capable Risc PC in 1994 and its abilities are further enhanced by the 486 PC card – seen for the first time at Acorn World '94. Not every parent or teacher is going to need PC access, but the knowledge that when you buy this machine you are covering future contingencies gives a security unheard of on any other platform at the price.

Acorn Computers' core business has historically been in the education market – from pre-school to higher education. However, it was the advent of the RISC OS machines with their 32-bit technology which redefined the landscape of educational computing.

Using a computer should be an enabling experience, breaking down the barriers to technology and learning in general. The flexibility and versatility of the Archimedes – and now the Risc PC – ranges are the key to making Information Technology a part of everyone's education, regardless of age, ability and requirements.

Balancing the budget

We all know that educational resources are finite causing problems with time, money, training and so on. At Acorn we believe it's our role as partners in education to address the problem of limited resources head on.

To ease the strain, Acorn has introduced a variety of schemes for schools and parents to spread the cost of buying computer systems:

- Assist
- Advantage
- Options

Advantage

This programme comes in two parts: school and home. The purpose of this partnership is to bring together schools, teachers, pupils and families. Every time a school in the scheme buys an Acorn machine they will be awarded points which can be collected and used to acquire a range of educational equipment for science, music or sports, or books, training and further computer equipment.

In addition, teachers receive discounts on educational conferences, special reports on education, training offers and a copy of Arc magazine. On the home front, the scheme allows families to buy an Acorn computer and donate 500 points to a school of their choice.

Assist

Easing the financial burden, Acorn Assist gives low cost finance for individuals in education. With 0% finance you can spread the cost over six months with no cost penalty – 0%APR. Alternatively, you could buy any Acorn machine for £50 month – 13.75% APR.

As a bonus you'll be given Purchase Points towards a catalogue of gifts, as well as a free subscription to Arc magazine. Introduce a friend to the scheme and you could receive even more Purchase Points.

At home

One of the most common reasons cited by parents for buying a computer is to help their children at school. A computer is a tool, and it is up to you how to use it. However, for many families it is probably one of the most expensive tools they will ever buy. Most want a machine which will grow with their children, well supported by other companies, with a built-in flexibility which means that they won't have to buy a replacement in another two years.

An Acorn Risc PC or A3010 can be used to encourage basic computing skills as well as colour matching or painting in a range of programs aimed at the pre-school age group. On the same machine, an elder sibling or parent could be using Photo CDs and one of the image processing software packages available for the RISC OS machines for business or pleasure.

At school

We can't do much about giving teachers more time, although it's amazing how IT can keep pupils busy. Where we can have a major impact is in training and in being realistic about school budgets.

Training and support for Acorn machines and software is available from the Acorn in Education Centres (AECs). You can phone 0223 254222 for details of your nearest centre or pick up your copy of the Acorn Selector. This is a directory of resources and training courses available throughout the UK.

Teachers can visit the Centres to try out computer systems, get an instant update on the latest IT in schools or view software and curriculum materials. The AECs also produce a range of resources relating to technology, whether you be a novice or advanced user of IT in the classroom.

However, the use of Acorn machines extends far beyond the classroom, into business, medicine, manufacturing and printing throughout the world. The reasons? There are many, but the most common are: speed, cost, flexibility, adaptability and a good learning curve.

Computers should open up a world of opportunities for children at school, but also at home

WN the barriers

Old letteracy versus new literacy

Glancing through the computer or educational press will reveal questions being raised about the emphasis on the computer as a teaching medium. IT enthusiasts often assume that there are only two types of people: other IT enthusiasts, sharing their convictions about the value of IT, and everyone else. However, the education arena has seen the development of a serious debate about the value of new technologies.

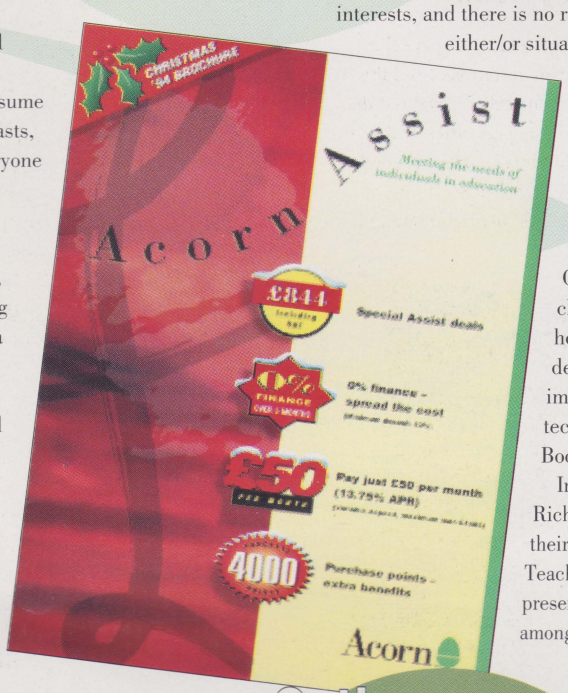
On one side there are the supporters of *Old Letteracy*, with an emphasis on a back to basics approach returning to the blackboard and the 3Rs. It is arguable that such a formalised approach leaves no space for diversified learning, exploration and communication, but there is a solid weight of professional and parental opinion behind this approach.

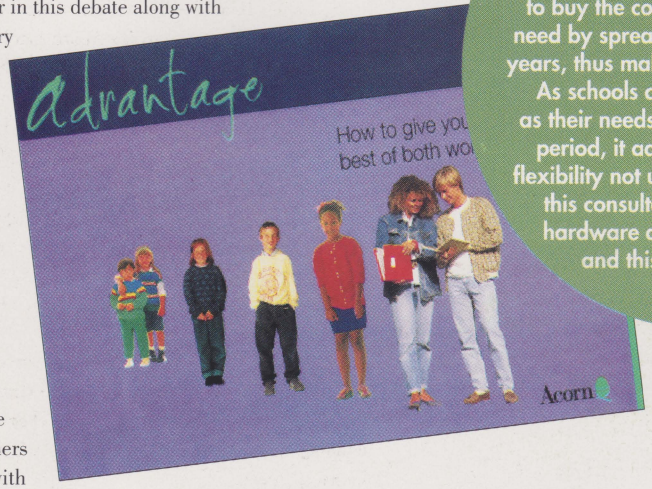
Faced with this anti-technology prejudice, there's only one thing to be done: IT has to embrace the concerns of the traditionalists and build on the strengths of the 3Rs. No one is advocating the abolition of the 3Rs but there is no reason to ignore technological advances, and many reasons to embrace them. Children should be given the best of both worlds.

IT should be used to make the emphasis on traditional literacy more approachable – talking books, special non-confrontational teaching methods, extra help for learning difficulties. However, *New Literacy* continues the learning process by introducing children to a whole range of communications media: visual, aural, as well as text-based.

Acorn is the prime mover in this debate along with representatives from industry and education. There is a need for better communication between the business and teacher communities, and New Literacy skills enable children to apply and use interactive multimedia software in the workplace. Such skills are increasingly expected by employers throughout the job market.

The debate will continue while, on the ground, teachers and parents have to work with reality. Every child is different, with their own individual needs and interests, and there is no reason why the debate should result in an either/or situation. The most logical route is for parents and teachers to take what is relevant and necessary from both sides, bearing in mind that the most important element in the equation is the child.





Options

An educational rental scheme open to both the state and independent sectors. This is a highly practical approach which allows schools to buy the computer equipment they need by spreading the costs over three years, thus making the most of budgets. As schools can also update machines as their needs change during a rental period, it adds an extra degree of flexibility not usually available. Add to this consultancy, installation and hardware and software support, and this is a truly unique scheme.

The missing link

Out of the classroom, what benefit can children get from using computers at home? Your first thoughts may turn to a desktop machine, but don't forget the impact made on education by palmtop technology, and in particular the Pocket Book.

In a recent research project the pupils from Richard Calloner Boys' School, Kingston took their Acorn Pocket Books home with them. Teachers reported improvement in writing, presentation skills, spelling and fine motor skills among the pupils in Years 8-11.

Primary schools in Wellington, Somerset piloted a similar scheme with more parent involvement. Headteacher of Beech Grove Primary, Robin Griffin found that the home use of Pocket Books opened the door to a much wider educational discussion with parents. Most important was the fact that parents were able to see at first hand that children acquire skills in IT in a very different way to adults.

Commenting on the experience, Robin Griffin remarked: "I believe that in this respect especially, the project has strengthened home/school relationships in a context that, to many parents, some governors and all the staff involved, appeared problematical in the past."

THE HOME/

WE all know that Acorn desktop computers, with their attendant software, are superb for all sorts of purposes, including education. Their disadvantage, which they share with all standard computers, is that they are bulky and require a good supply of mains electricity. Carrying a Risc PC or even an A3020 from home to work is not very convenient and is likely to result in a period off work with a bad back from carting the stuff around. It could result in damage to the delicate moving parts of the system, notably the disc drives, as they get battered around in the back of a car. All in all, desktop computers are best left in place, on the desktop.

Acorn has solved these problems by redesigning its palmtop computer, now known as the Pocket Book II. This little beast, when folded, is a mere 165mm x 85mm x 20mm. If dimensions don't convey too much to you, then that really is small enough to fit in an ordinary trouser pocket. Pocket Book II is powered by a couple of AA batteries. My review computer has run on batteries for 14 hours 36 minutes – it keeps a record – and still tells me that there is plenty of life in them. The Acorn Pocket Book II is very cheap to run and a mains transformer is available, so battery life could be preserved even more.

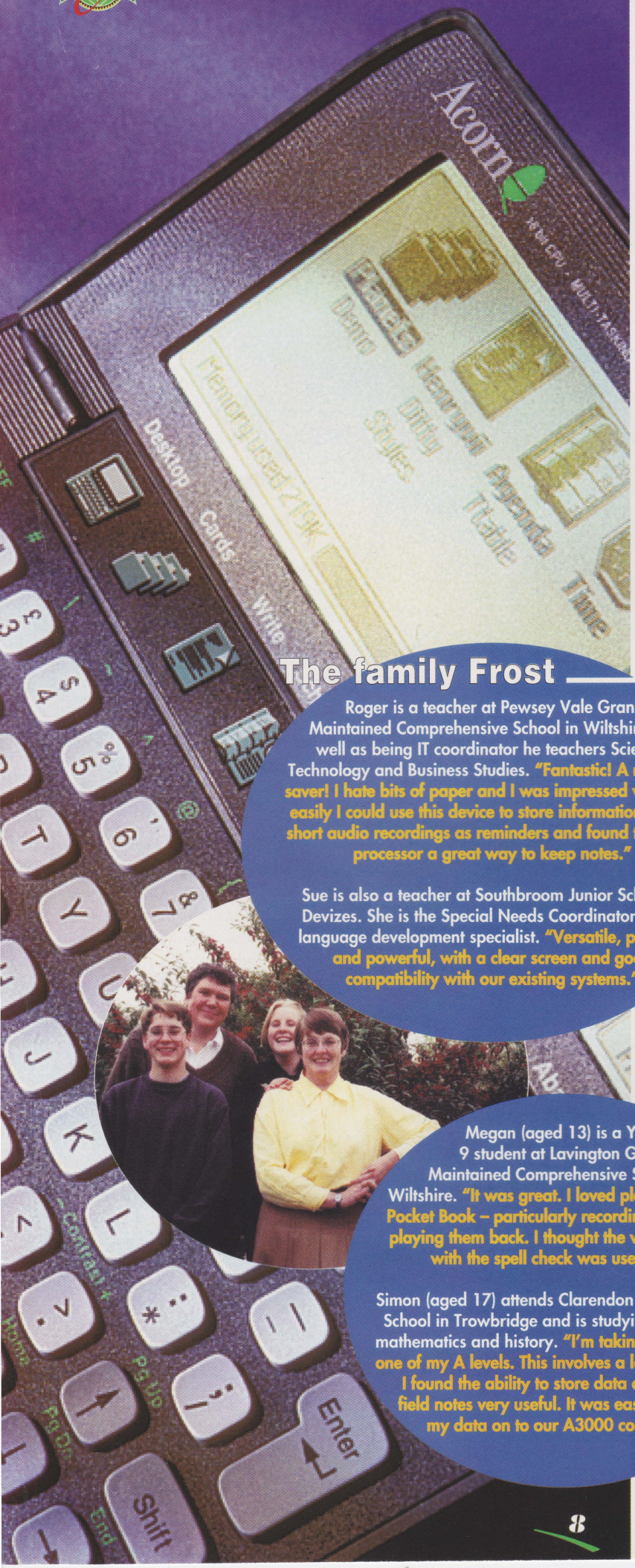
This computer may be small but it is fully functional. The LCD screen provides a sharp and clear image and text displays may be zoomed in or out to suit your eyes. Even using 16 rows of text, with 80 letters in each row, I can see and read the display with no difficulty. The screen refresh is fast, even using graphics.

But how does the Pocket Book II stand up to the rigours of school and home usage?

At school...

I have limited time to access unfamiliar systems and the Pocket Book II is not a RISC OS machine but is still very intuitive to use. There are 10 built-in applications: Write, Schedule, Abacus, World, Cards, Calculator, Time, Spell, Record and Plotter, plus a printer driver. All the programs are a doddle to run using a system of drop-down menus which are activated by hitting the menu key. If things really baffle you, try the Help key. However, neither I – nor my team of young users – had any need for help.

My Pocket Book II arrived and was put to work straight away. My first tester had no difficulty coping with the word processor and rapidly got to grips with the spell checker. When he



The family Frost

Roger is a teacher at Pewsey Vale Grant Maintained Comprehensive School in Wiltshire. As well as being IT coordinator he teachers Science, Technology and Business Studies. **"Fantastic! A real time saver! I hate bits of paper and I was impressed with how easily I could use this device to store information. I used short audio recordings as reminders and found the word processor a great way to keep notes."**

Sue is also a teacher at Southbroom Junior School in Devizes. She is the Special Needs Coordinator and a language development specialist. **"Versatile, portable and powerful, with a clear screen and good compatibility with our existing systems."**

Megan (aged 13) is a Year 9 student at Lavington Grant Maintained Comprehensive School in Wiltshire. **"It was great. I loved playing with the Pocket Book – particularly recording sounds and playing them back. I thought the word program with the spell check was useful too."**

Simon (aged 17) attends Clarendon Comprehensive School in Trowbridge and is studying geography, mathematics and history. **"I'm taking geography as one of my A levels. This involves a lot of field work. I found the ability to store data and produce field notes very useful. It was easy to transfer my data on to our A3000 computer."**

The Frost Family put the Pocket Book II through its paces at school and at home

SCHOOL *link*

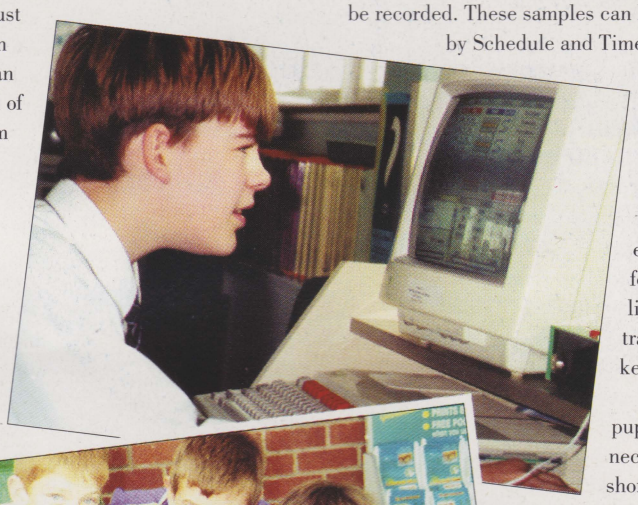
had finished his task the crucial moment came. Would we be able to send his text along to a desktop Acorn for improving the layout, fonts and printing?

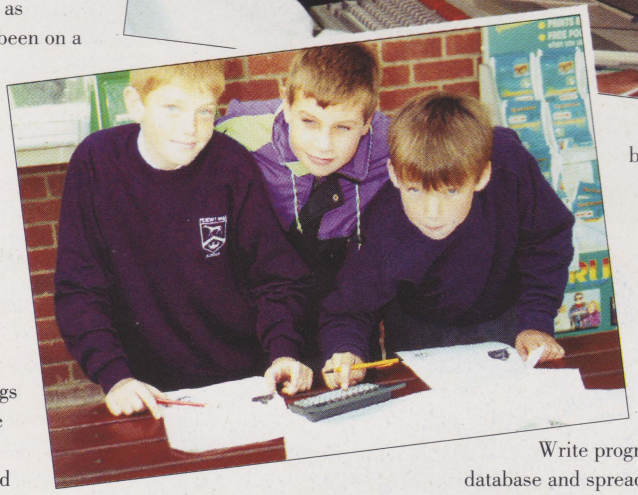
Acorn has provided a device called an A-Link for this. It connects the Pocket Book II to the serial port on the main computer. A piece of software for the desktop, PocketFS, completes the requirements. I have to confess to some difficulty getting things going but after a bit of trial and error selecting various baud rates, we had the two machines talking. Versions of this link are also available for the PC and Mac.

Transfer is then very easy. The Pocket Book looks just like another disc drive on the main computer. Files can be dragged from one drive to another or straight on to an application. Files from the word processor are stripped of any layout detail and copied as plain text and files from the database or spreadsheet are recognised as CSV or even TSV files.

It is possible to transfer other pieces of saved work as well. I tried to transfer sound samples for use in Tracker programs. It all worked, but the sounds ended up very *dirty*. Data, of all types, can be transferred in the opposite direction as well.

This ease of transfer makes the Pocket Book II the ideal companion for school pupils as well as teachers. My well-travelled machine has been on a school trip to Bristol Zoo where some pupils were able to write up their notes ready for transfer to the computers back at school. This certainly helped the youngsters achieve more from the trip. They already had a first draft of their ideas and were able to spend time improving the quality of their work.





At home...

Bringing the machine home in the evenings and weekends, the family spent little time getting to grips with the word processor, which allowed the usual styles to be added to the text and integrated well with the spell checker. The record card style database is ideal for addresses and phone numbers and it even has an in-built autodial facility.

The almanac or diary program, Schedule, allows a variety of views from daily right through to a whole year at a time. The ability to attach audio alarms to appointments is certainly a bonus. The companion program, Time, can also be used for reminders, particularly for events which occur more than once, and worked well with our family's busy schedule, while anyone used to spreadsheets will find Abacus a delight to use.

Record is a sound sampling program which intrigued my children immediately. The computer has an in-built microphone, and samples up to 20 seconds long (depending on disc space) can be recorded. These samples can be used as the audio alarms used by Schedule and Time. I discovered this early on a Saturday morning when the voice of my son's friend disturbed me with *Wakey Wakey*.

Pocket Book II also has a built-in Basic programming language. I have to confess that I have not explored this at all. I have only found one group of people who don't like Pocket Book II – these are trained touch typists who find the keyboard too small and fiddly.

All other people, teachers or pupils, will find this little computer a necessity for work or play after a very short time. My immediate problem is that I have to send my Pocket Book II back. I don't know how we're going to cope!

Conclusions

Any pupil who owns one of these machines is at a real advantage across the age ranges and the curriculum. They are small enough to be easy to carry and use and tasks can be prepared in advance of a lesson and improved under the helpful guidance of a teacher. While the Write program would probably have most uses, the database and spreadsheet are also very functional. The spell check, which allows various fuzzy searches could also be very useful.

Disorganised pupils will find this little computer very convenient, particularly with supportive parents. They will have the ability to store short notes in audio form, instructions for homework can be downloaded onto the machine, and students can set their own alarms for deadlines.

WHAT'S ON Acorn

Creche

Fully trained and qualified Nursery Nurses will entertain any child – aged between 0 and 12 – free of charge for up to two hours while you visit the show, examine the latest technology or try your arm at one of the many challenges and competitions at Acorn World '94.

Jugglers, face painters and a jester

Throughout the show you'll come across entertainers to turn you into master jugglers or transform your features, and teach you new tricks.

Competitions

Pocket Book Jigsaw: You can pick up your entry card from points around the show. This shows a picture of a Pocket Book II which has been divided into 12 jigsaw pieces. To win a Pocket Book II you must find these 12 pieces which are dotted around the show. Drop off your completed card – don't forget your name and address – at the *Acorn User* or *Acorn Computing* stands.

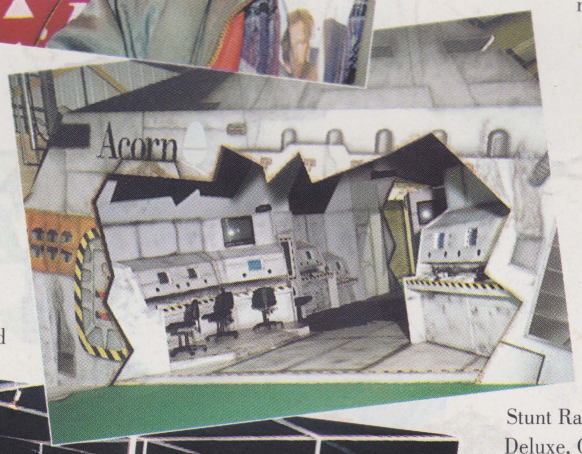
There will be two winners each day – one in the morning and one in the afternoon – so listen out for the announcements and you could win your very own palmtop computer.

Christmas Card Design Competition: There will be a display of the finalists' entries on the Acorn stand and the winning design will hold pride of place, with the prize of a Risc PC being presented at the show.

Lucky Dip: Sponsored by *Acorn Computing* and *Acorn User*, every one is a winner in this competition. All you have to do is delve into a tub and find a card. On each card are the details of a prize: it could be an A4000, or one of a host of top quality software packages, a bundle of disks or a T-shirt. What have you got to lose? Entry is 20p a go with all proceeds going to St Thomas' Hospital, London.

Registration Competition: You could even win a prize when you complete your registration card. Complete it as you arrive and pop it into the collection box. Winners will be announced throughout the day and you could win the latest edition to the Acorn range – your very own Pocket Book II.

Multiple Choice Quiz: How much do you know about Acorn products and technology? This is also a good time to find out what the Acorn Enthusiasts' Scheme could offer you, with opportunities to win an ARM 700 processor card or be one of the first to own a 486 card for a Risc PC in a competition of questions and a tie breaker, with extra prizes of a range of Risc PC processors and multiprocessor adapter boards. Full details from the Acorn stand.



Special Offers and Schemes

The Acorn sales and training stand is in place to give you all the details. There's a bargain basement too.

Games Arcade

A spaceship has crash landed in the Wembley Exhibition Hall, and contained within it are 18 machines playing the very latest in arcade, puzzle and adventure action. Sponsored by Acorn Computing and Acorn User, this is your chance to meet the Games Editors from the two magazines and see their classic collections of games in a world of laser light, sound and excitement.

Play is free and games will be alternated throughout the weekend giving you access to: StarFighter 3000, E-Type II, Sim City 2000, Wolfenstein 3D, Flashback, Magic Pockets, Heimdall, Spobbleoid, Lemmings II, Crystal Maze, Haunted House, Dungeon, Sensible Soccer, Virtual Golf, Xenon II, Magnetoids, Bowladroids, Cannon Fodder, Zool, Stunt Racer 2000, Diggers, Elite, Saloon Cars Deluxe, Carnage Inc, Hamsters, Spheres of Chaos, Wavelength, Speedball II, Burn 'Out, Gods, Arcturus, Axis, Small, Warlocks, Pandora's Box, Time Machine, Cataclysm, Chocks Away, Zarch, Aldebaran and Interdictor II.

Theatre

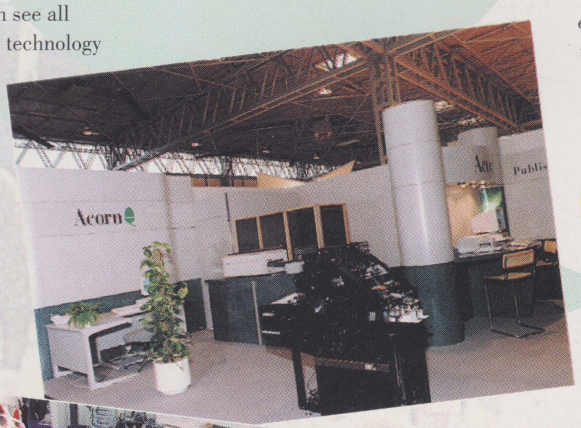
Do you want to know what is happening in the Acorn world? Then the theatre is the place to be with informative and in-depth talks and discussions on a wide range of topics. See page 26 for a full list of what is on offer.

Publishing

Acorn will be demonstrating their professional publishing system used increasingly in the publishing and pre-press world. As well

AT World '94

as watching the production of colour leaflets, you can see all stages of creation, from layouts to the state-of-the art technology used today to produce plates and a final print.



Enthusiasts' Scheme

On the Acorn stand will be a section devoted to the Acorn Enthusiast – Clan Acorn '94. This is a special scheme which has been developed just for Enthusiasts and if you sign up, and part with £15, you'll be given a badge, sweatshirt, mousemat, and a disk of useful programs. You'll also receive regular mailings of information and offers directly from Acorn.

Kodak Photo CD

Working with Kodak, the Acorn in Education Centres (AECs) in the UK and the Cambridge Digital Imaging Centre, Acorn now offers professional PhotoCD creation and technical support at a discounted price to educational users – a typical transfer of a negative to PhotoCD costing around 55p. The promotion is backed by countrywide training courses and you can see the techniques used in preparing resource materials and multimedia applications at the show.

Technical Clinic

Have you got a question, query or poser? Then Acorn's very own technical experts are on hand to give you the answers.

Laser Labyrinth

Your vital signs are connected to a computer, you are carrying a high powered laser rifle and before you is a maze of opponents and challenges – how will your adrenalin react?

Free Training

Acorn Training will be running a series of hands-on training sessions. Each will be an hour long and consist of a mini training course which is a *snapshot* of the usual two-day equivalent: Introducing RISC OS; Make the most of Draw and Paint; Effective DTP; Creative Multimedia and Behind the Desktop. Sessions will be run on a Risc PC, but are limited to six participants.

Home/School Link

Find out how the Pocket Book II is changing the way teachers and learners think about IT in the classroom, at home and in the world at large.

Set Top Boxes

You can glimpse the home of the future at Acorn World. Very much in evidence will be Online Media's STBs, capable of providing a powerful home/office multimedia environment as well as low-cost interactive TV services such as video-on-demand, home shopping and banking.

Audio Visual Gallery

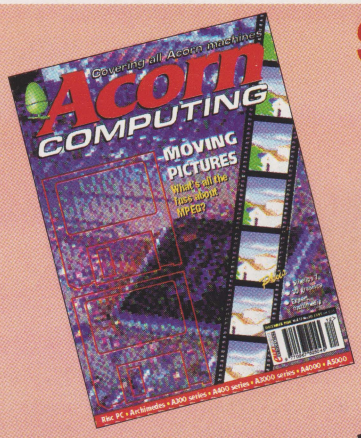
New this year is a completely sealed AV unit where Acorn are offering you a glimpse of the future. In this world, movies are played on a domestic CD player, the entire AV experience is controlled by a sophisticated computer and you, as a user, are entirely in control of the system from the comfort of your armchair.

Risc PC Power

The focus of the main Acorn stand is leading edge technology. As well as a 7-slice Risc PC powered with a range of the unusual, interesting and useful, Acorn's own developers will be there to talk to you about what they are working on for the future.

Special topics to be covered will include ATM technology (synchronous transfer of data), video-conferencing, MPEG support and a machine demonstration of several applications running simultaneously, which most Acorn users will perceive as separate tasks. Add to this networking, operating systems and heterogeneous/homogenous processing and this promises to be one of the busiest stands at the show.

Make your way to the *Acorn Computing* stand and you'll find...

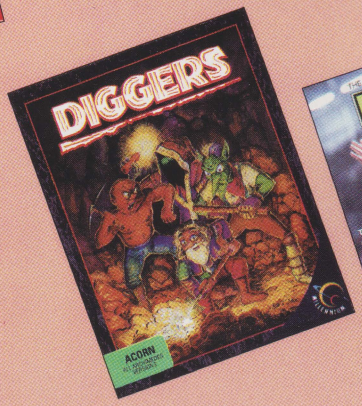


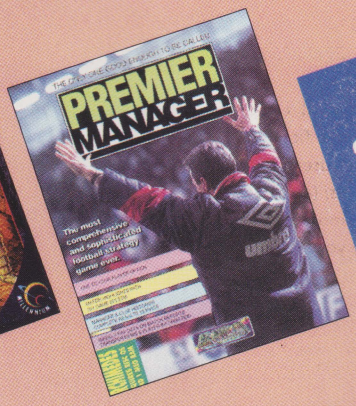
Special Acorn World '94 subscription offer

Only £9.49 per quarter – over a year you receive 13 issues

Have Acorn Computing delivered postage free to your home every month – guaranteed – and choose one of these excellent free gifts when you subscribe to Acorn Computing for a year for £37.99 or by continuous quarterly direct debit for **only £9.49**

Choose one of these free gifts





Or:
Speech (utility)
Aldebaran
One extra issue and a magazine binder

December issue on sale here at the show - before it's in the shops!

Journey through the *Interactive Tunnel* and get *Expert Technical Advice* – FREE

This year's stand will give you a chance to experience the best of the past 12 years of Mike Cook's Body Building projects. Mike, one of our technical experts, produces projects that enable you to experiment with and build some hardware add-ons for Acorn Computers.

We've taken some of the best loved and fun projects and recreated them for you to try out for yourself, on the stand. It's time for hands on Mike Cook!

You might remember the Pulse Rate Monitor which takes an infrared reflection from your finger, or the Nine Pins reed switch game. You can use light dependent resistors to generate ever changing artwork, play at being a sneak thief getting treasure past an infrared beam, view stereoscopic 3D images, sort coins by size and value or explore Chaos theory in a dripping tap. Sounds good? See you at the stand then!

PLUS... There's the *Lucky Dip competition* on stand 54, where over 10,000 prizes will be given away. Every entry is a winner – instantly! Prizes range from mugs, to software, to computers. Entry costs just 20p for two dips – all the proceeds will go to charity; St Thomas' Hospital in London.

There's also the *Pocket Book II competition*. You'll find entry forms on our stand. All you have to do is note where the jigsaw pieces of a Pocket Book picture are scattered throughout the show – and you could win a Pocket Book of your own. There are six up for grabs; two each day. We'll announce the winners at midday and near the end of each day.

Covering all Acorn machines

Acorn COMPUTING

Stand Guide

Key
- Desktop Publishing
- Home Office
- Graphics
- Games
- Education
- Printing Services

Stand 24
10 out of 10

1 Percy Street
Sheffield
S3 8AU
Tel: (01142) 780370

The big new 10 out of 10 release is the *Driving Test* package. This is the first real software users' guide to driving, with over 4,000 questions on – among other things – continental driving, trivia, motorsport, traffic signs, junctions and more. Also on show will be *Structured Spelling*, *Essential Maths* and *Maths Geometry*.

Stand 70
3SL Ltd

501 – 511 Crewe Road
Sandbach
Cheshire
CW11 0QX
Tel: (01270) 761516

3SL – trading since 1981, and approved to BS5750 standard, are the largest Acorn dealer specialising in education and networking. 3SL offers a range of services designed to meet your requirements. An Epson service centre, with a full range of Epson products and servicing.

Stand 72
4Mation

14 Castle Park Road
Barnstaple
Devon
EX32 8PA
Tel: (01271) 25353

On show will be our recently released interactive fiction software for younger users. Come along and see how *Betsi* (an adventure set in Tudor times) and *A Mouse in Holland* can inspire you. Special prices for the show!

Stand 24
4th Dimension

1 Percy Street
Sheffield
S3 8AU
Tel: (01142) 780370

The 4th Dimension will have a big new release, and the best special offer it's ever had. The game is *E-Type2* and is *the* game for the Risc PC. Split-screen action for two-players, tunnels, laser guns, lots of power ups and a built-in designer make this one to watch out for for fans of the original *E-Type*.

Stand 60
Academy TV

104 Kirkstall Road
Leeds
LS3 1JS
Tel: (01132) 461528

Academy TV will be displaying its range of CD-ROMs including: *Science 1: Elements*, *Science 2: Materials*, *Environment 1: Water*, *Environment 2: Land & Air*, *Inventors and Inventions*, *¡En Marcha!* and *Directions 2000*.

See map
Acorn Computers Ltd

Acorn House
Vision Park
Histon
Cambridge
CB4 4AE

This year the Acorn stands are not to be missed, and are described in detail on page 10 of the guide.

See map
Acorn Computing

Europress Publications Ltd
Europa House
Adlington Park
Macclesfield
SK10 4NP
Tel: (01625) 878888

As well as the usual special offers and free technical advice, this year's stand will give you a chance to experience the past 12 years of Mike Cook's Body Building projects. We have taken some of the best loved and fun projects and recreated them for you to try out yourself. It's time for hands on Mike Cook in the Body Building tunnel.

See map
Acorn User

Europress Publications Ltd
Europa House
Adlington Park
Macclesfield
SK10 4NP
Tel: (01625) 878888

Come and meet the editorial team on the best-selling Acorn magazine, who will help with any technical queries, chat about the magazine. See how we can use an Acorn machine to lay out and design the magazine. There will be a chance to pit your skills at *Flashback* and *Scrabble* against other show-goers, and you will also be able to subscribe to *Acorn User* with a special show offer.

Stand 64
Akalat Publishing

PO Box 231
Barton
Bedford
MK45 4HQ
Tel: (01582) 881614

Akalat Publishing is home to *Acorn Publisher*, a new magazine for all interested in publishing on Acorn computer systems. The magazine covers everything to do with desktop publishing, graphics, design, illustration, typography, printing and associated topics, and issue one is out now.

Stand 41
Aleph One

The Old Courthouse
Bottisham
Cambridge
CB5 9BA
Tel: (01223) 811679

Aleph One will announce details of its PC second processor card for the Risc PC at the show. The Aleph One cards will offer greater performance than the Acorn card at highly competitive prices.

Stand 75
Alsystems

47 Winchester Road
Four Marks
Alton
Hampshire

GU34 5HG
Tel: (01420) 561111

Alsystems will be featuring a range of IDE hard cards for the A3000 and A3010, launching a SCSI driver for the NEC range of CD-ROM drives for A5000 and Risc PC, and selling a large selection of hard drives up to 2Gb. It will also have RAM for the Risc PC at competitive prices, and will have the i-cubed range of Ethernet hardware, with experts on hand to answer your questions on networking.

Stand 127
Alternative Publishing

319a Pentagon House
36 Washington Street
Glasgow
G3 8AZ
Tel: 0141-248 2322

Come and see what all the rave reviews were about! Alternative Publishing will be displaying and demonstrating its recently launched graphics import software *ImageFS*. Also on display will be our specialist Acorn DTP, Bureau Output and Commercial Print Services.

Stand 97
Anglia Television

20 Hall Drive
Sydenham
London
SE26 6XB
Tel: 0181-778 7536

Anglia Television presents its full range of CD-ROMs, featuring full screen video, including: Understanding Energy, The World's Weather, Art Store – Looking at Animals, The Industrialisation of Britain, Garden Wildlife and the latest datafiles for Key Plus, many available on CD-ROM.

Stand 41
Ant

PO Box 300
Cambridge
CB1 2EG

Ant will be demonstrating its networking software and hardware range, including some exciting surprises. It will show how it is possible to connect Acorn computers to a range of Acorn, Microsoft and UNIX systems. Ant's technical staff will be on hand to demonstrate the systems and help with technical problems.

Stand 47
Apricote Studios

2 Purls Bridge Farm
Manea
Cambs
PE15 0ND
Tel: (01354) 680432

The leaders in friendly accounting software for home, club and business. To find out just how easy computerised accounting can be, come and see demonstrations of *Personal Accounts v3* for home and club, *Prophet* for business and *Shares* for your portfolio.

Stand 121
Arch Angel

PO Box 41
Exeter
EX4 3EN
Tel: (01392) 422759

Arch Angel will be selling PD packs. Collections promised include: a games mega-bundle, a graphics pack with 24-bit editing packages, utilities for the Risc PC and a general utility pack. Also on sale will be a *Draw* file puzzle utility pack.

Stand 72c
Archimedes World

Argus House
Boundary Way
Hemel Hempstead
Hertfordshire
HP2 7ST
Tel: (01442) 66551

Acorn Archimedes World is the fastest growing magazine devoted entirely to Acorn's RISC OS computers. As well as having the November 1994 issue at the show, we also have discounted subscription rates, a software sale and special offers on all back issues.

Stand 25
The Arm Club

Freepost ND6573
London
N12 0BR
Tel: 0171-624 9918

The Club is promoting membership and its benefits. We have the largest and cheapest range of Public Domain discs, available to take away. Don't miss *GameOn!* our new utility for Risc PC owners allowing many old games to work, priced £10.

Stand 37
Aspex Software

Heather House
Down Road
Tavistock
Devon
PL19 9AG
Tel: (01822) 611060

Aspex is exhibiting *ArchiTech*, the powerful but simple 3D system for modelling, communicating and displaying design ideas; interiors, furniture, vehicles, a city block, or whole landscapes with instant texture rendering, animation, walk-through and film output. It will also be exhibiting *Spex* 3D environment software.

Stand 41
Atomwide

Unit 7
The Metro Centre
Bridge Road
Orpington
Kent
BR5 2BE
Tel: (01689) 838852

Atomwide is a major Acorn dealer and developer of peripherals and upgrades for Acorn products. A wide variety of interface cards, memory expansions and networking products will be demonstrated on the stand. Products will be available for sale at very special show prices.

Stand 91
Audio Dynamics

10 Durnford Close
Norden
Rochdale
Lancs
OL12 7RX
Tel: (01706) 868803

Audio Dynamics is a manufacturer of music hardware and software for the whole range of RISC OS machines. If it's an orchestra, a rock band or a helicopter you want from your Acorn, these are the people to speak to.

Stand 84
Beebug

117 Hatfield Road
St Albans
Herts
AL1 4JS
Tel: (01727) 860263

Acorn's largest consumer dealer is offering a huge range of competitively priced products including the Risc PC and reconditioned systems. See the new versions of *Ovation*, *Sleuth*, *Easy C++*, the famed *Risc User* magazine, high density FD drives, tape streamers and our range of networking products.

Stand 64
Birdtech

33 Blackbird Close
Bradwell
Great Yarmouth
Norfolk
NR31 8RT
Tel: (01493) 600966

Scanning and printing services are our speciality and as an Acorn authorised dealer we offer an expanding range of hardware and software. We are introducing *Replay snippets* on disc and *Play on Words*. Words morph into witty animations to aid reading.

Stand 27
Calligraph

53 Panton Street
Cambridge
CB2 1HL
Tel: (01223) 566642

Calligraph laser printers provide high quality, fast, professional output at low cost. Our A3 and A4 format 8ppm direct drive printer operate at up to 1200dpi and incorperate SuperRes® enhancement and Truetone® greyscaling. A variety of paper types and sizes is supported.

Stand 43
Cambridgeshire Software House

The Computer Centre
8 Bramley Road
St Ives
Cambridgeshire
PE17 4WS
Tel: (01480) 467945

We will be showing two new programs, *SecureIT* and *Helix Compiler*. *SecureIT* is a file and directory protection utility that is easy to use and *Helix*

Compiler follows on from the success of *Helix Basic*. We will also have our full range of software, including *Frontier 2000* CD-ROM and *Amazing Maths* as well as a display of Canon Ion Camera digitising systems.

Stand 17
Castle Technology

Ore Trading Centre
Woodbridge Road
Framlingham
Suffolk
IP13 9LL
Tel: (01728) 621222

Special show offers and new products: Computer systems at special prices – Risc PC and A3010 HD; keyboards and mice, Acorn compatible; light pen for Acorn computers (new), SCSI drives for all Acorn computers, SCSI disc share – share hard drives and CD-ROMs (new).

Stand 42b
CJE Micro Computers

78 Brighton Road
Worthing
West Sussex
BN11 2EN
Tel: (01903) 231361

CJE Micros will be launching a number of new products including inexpensive SCSI CD-ROM drives and reasonable priced Quad speed CD-ROM drives. Budget CD-ROM drives, RAM, ARM3 upgrades, hard discs and Risc PCs all at special prices will be available from the stand. CD caddies at reasonable prices will be on sale. CJE micros sells a range of inexpensive hard discs for the A3020 and other models.

Stand 56
Clares Micro Supplies

98 Middlewich Road
Northwich
Cheshire
CW9 7DA
Tel: (01606) 48511

Clares Micro Supplies has its usual range of products available for sale. New products include *ProArtisan24* and *Composition* for the Risc PC. Plus the famous replacement mice and some very special offers. *Seen any Musketeers?*

Stand 80
Colton Software

2 Signet Court
Swann's Road
Cambridge
CB5 8LA
Tel: (01223) 311881

View *Fireworkz Pro* for the first time – full integration of the wordprocessor *Wordz*, spreadsheet *Resultz* and database *Recordz*. Marvel at the ease of file transfer from RISC OS to Windows. Examine Classcardz, popular support materials for the 'Z' family.

Stand 110 & 112
Computer Concepts

Gaddesden Place
Hemel Hempstead
HP2 6EX
Tel: (01442) 63933

All CC and Wild Vision publishing, graphics and multimedia products including more than a dozen new releases. Latest developments to *Impression*, *ArtWorks*, *TurboDrivers*, Scanlight etc. Continuous programme of presentations in the theatre on the stand. Many special show offers.

Stand 48
Cumana

Pines Trading Estate
Bread Street
Guildford
Surrey
GU3 3BH
Tel: (01483) 503121

Bravo, Cumana's here with its new range of CD-ROM drives and software for users of all ages. Visit the stand and you could walk away with an Oscar! Cumana; the Victor in the Acorn CD-ROM market. 'Ere we go Indigo.

Stand 119
Dalriada Data Technology

145 Albion Street
Kenilworth
Warwickshire
CV8 2FY
Tel: (01926) 53901

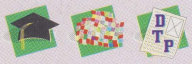
TableMate is a familiar name to many RISC OS users, particularly for those who use *Impression*. Dalriada perhaps is not. Dalriada is the creator of *TableMate* and will be demonstrating *TableMate 2*, and also previewing a new DTP utility.

Stand 13
Davyn Computers

The Workshop
off Princess Street
Sandal
Wakefield
West Yorkshire
WF1 5NY
Tel: (01924) 254800

Davyn Computers will have the author of its *RiscCAD Professional* program on hand to demonsrate its power and flexibility, and there will also be a number of games and utilities on display.

Stand 121
Dec Data



60 Danes Road
Exeter
EX4 4LS
Tel: (01392) 221702

Dec Data has two new products to be released for the show. The first is aimed at education and is a double clip art collection called *The Normans*, including excerpts from the Bayeux Tapestry. It is aimed at Key Stage 2. The second product is an *Impression Publisher* resource disc, including a free copy of Dec Data's *Boxy* font which puts boxes round words. This is a completely new disc, rather than a re-packaged version of the *Style* resource disc.

Stand 86
Desktop Projects

Unit 2A
Headpriding Business Park
Ford Street
Stockport
SK3 0BT
Tel: 0161-474 0078

In addition to its successful range of *TopicArt* clip art, and its *Quick* series of utility software, Desktop Projects will also be supplying the Risc PC range of computers, low-cost SCSI CD-ROM drives and IDE hard drives for the Risc PC and Archimedes at very attractive prices.

Stand 85
Digital Arts

231 Northborough Road
Norbury
London, SW16 4TU
Tel: 0181-679 7307

Digital Arts will be selling *DA's Picture* at a special price to reflect the show. The photo retouching package will have two new filters available for it; one for texturisation and one for warping.

Stand 20
Digital Services

9 Wayte Street
Cosham
Hampshire, PO6 3BS
Tel: (01705) 210600

Important new products: Level 5 file-server first viewing, CD-ROM server – multiple simultaneous Replay sessions. *ArmLock* for security, *Squirrel* for data handling, *NetGain* for speed, *Digistore* for tape backups, *Waiter* for ease of use. Digital Services for the very best in networking.

Stand 73c
DoggySoft

Furzefield House
Furzefield Road
Beaconsfield
Bucks, HP9 1PQ
Tel: (01494) 673222

DoggySoft will be launching a new communications suite at the show called *Termite*, as well as selling our well-known games utility *Desktop Hacker*. We will also be distributing several discs with our highly acclaimed Public Domain software.

Stand 113
The Electronic Font Foundry

Gibbs House
Kennel Ride
Ascot
Berkshire, SL5 7NT
Tel: (01344) 891355

EFF will have a vast selection of fonts. There willl be new joined fonts for

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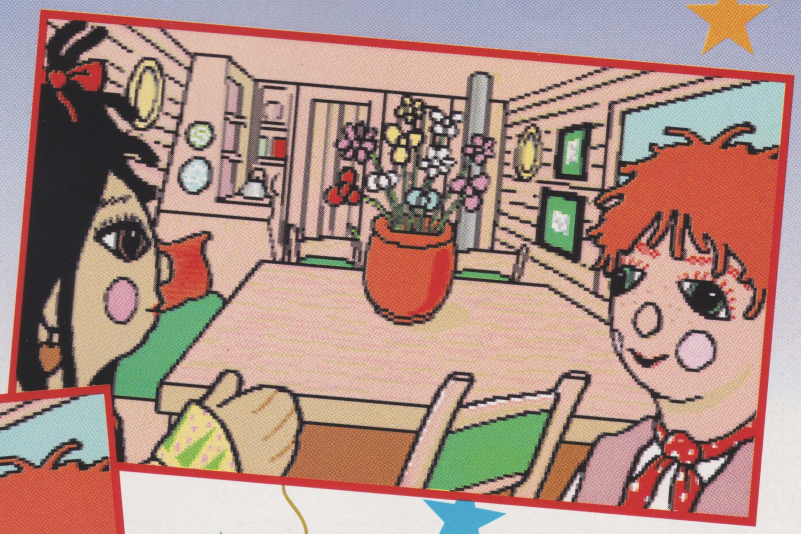
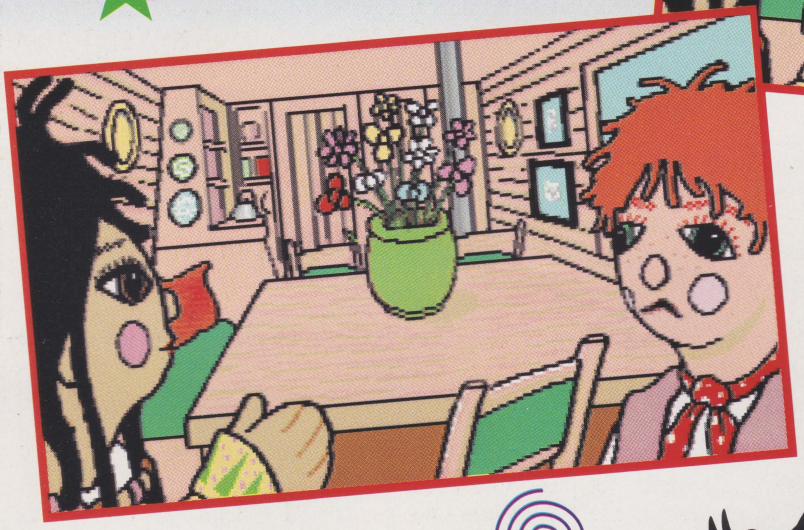
Kids' Column

Here is a series of puzzles and games for children of all ages

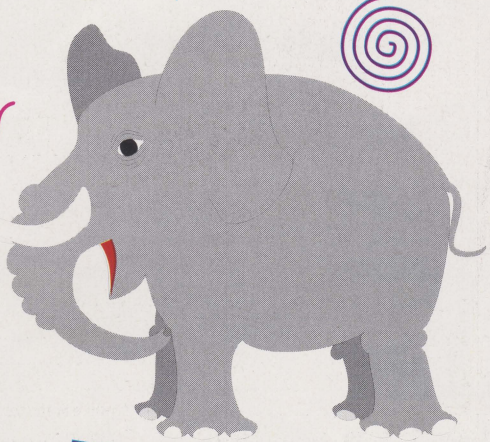
1 Spot the difference

Can you spot the eight differences between these two pictures?





2 Shadow pictures



Which silhouette exactly matches the picture of the elephant?

to page 4 for the answers • Turn to page 4 for the answers • Turn to page 4 for the answers • Turn to page 4 for the answe

Rosie and Jim is a Ragdoll Production for Central Television. These pictures are all taken from Sherston Software's latest release: Rosie and Jim Talking Activities – Duck loses his quack and Jim gets the sneezes. These are specifically intended for young early and non-readers, containing very simple activities aimed at this ability range

3 Farmyard

A collective noun is used when referring to a collection of animals. Can you help Rosie and Jim to match them up?

Gaggle
Flock
Herd
Hoot
Shoal
Swarm
Pride
Murder
Pod
Lions
Geese
Whales
Crows
Sheep
Bees
Owls
Cows
Herring

4 Riddle-me

My first is in silicon but not in salt
My second's in horse but not in vault
My third's in Iceland but not in Greece
My fourth's in pleat but not in crease
My fifth is in secret and also in wish
My whole is in computers
and comes with fish

What am I? _ _ _ _ _

5 Geography quiz

The capital letter indicates the location of a town or city. Do you know which?

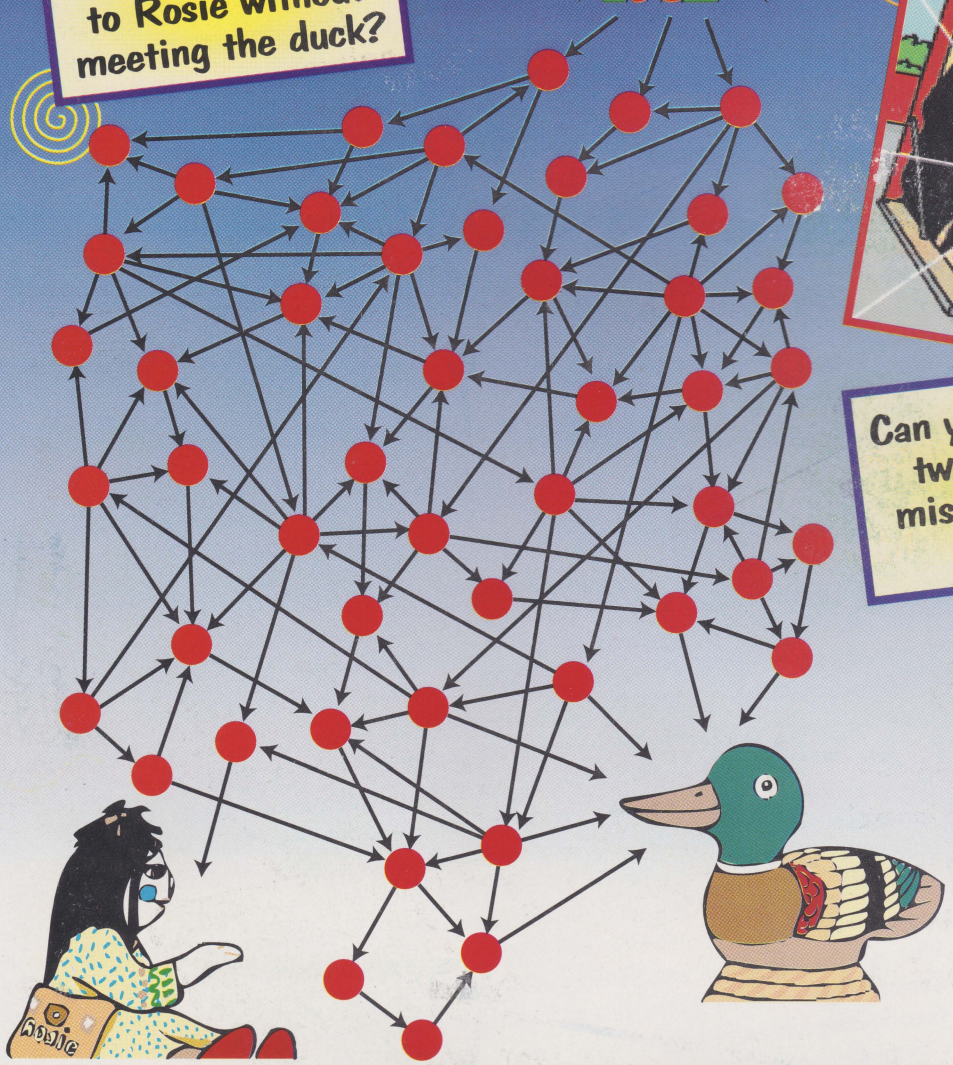
Location A _____
Location B _____
Location C _____
Location D _____
Location E _____
Location F _____
Location G _____
Location H _____
Location I _____
Location J _____

Manchester
London
Carlisle
Torbay
Cardiff
Aberdeen
Glasgow
Cambridge
Brighton
Birmingham

n to page 4 for the answers ● Turn to page 4 for the answers ● Turn to page 4 for the answers ● Turn to page 4 for the answ

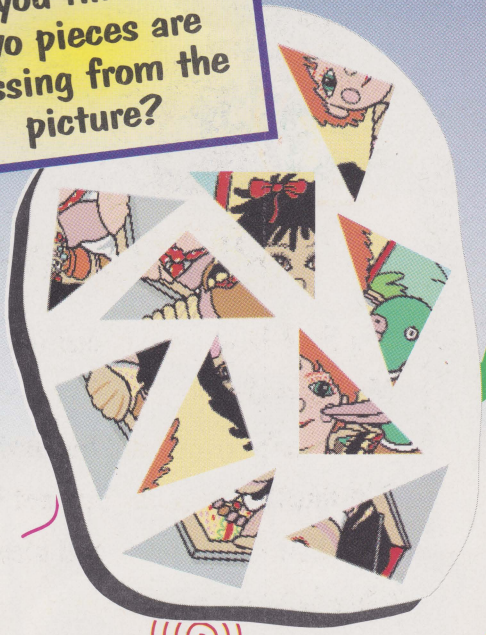
6 Path attack

Can you take Jim to Rosie without meeting the duck?



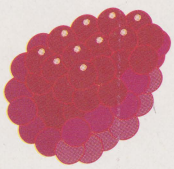
7 Missing piece

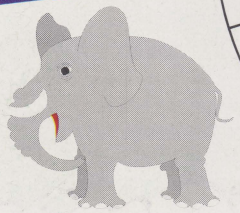
Can you find which two pieces are missing from the picture?

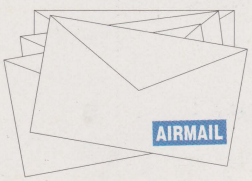


8 Word wheel

Fit the names of all the objects into the wheel so that they read clockwise. The last letter of one word is the first letter of the next.







ers ● Turn to page 4 for the answers ● Turn to page 4 for the answers ● Turn to page 4 for the answers ● Turn to page 4 f

9 Illuminated letters

We are going to create a letter T with some ivy leaves around it, though you can make any letter with any design. Open Draw on your computer and turn off the gridlock as you don't have to be exact. Next select Create Line and draw a rough leaf shape with five points round the edge. Draw the stem separately.

Now we need to make the shape a bit more realistic by changing a line into a curve. Select the Edit option and click Adjust which will highlight the control points. Click Adjust on the control point at the end of the line you want to change to a curve and it will change colour. Click the Menu button and a new Edit Menu will appear — you can now *Change to curve*. Two extra control points will appear on the line allowing you to drag them (with Adjust) to produce the curve you need.

To see what the curves look like press Select to turn off the control points and display the outline. Continue around the leaf outline until all the lines are changed to curves. If your leaf looks too curved, insert extra control points by pressing Adjust on the control point after the line on which you want an extra one. Select the Add Point option. If this is looking too crowded choose the Zoom option.

Finally, increase the thickness of the leaf shape. Do the same with the stem and then Select it and move it into position. Choose Select all from the Menu and Group the leaf and stem to make one object. You can add colour to your leaf with the Fill Colour option in the Style menu. Next, select the leaf and increase the line width via the Style menu — adjust the thickness to 1 point. Make seven of these by copying them. Remember to save.

Now we need to choose our letter. A letter the size of a small postage stamp would be about an inch high, so Select Create Text and go to the Style Menu — you can create a letter to the measurement you want. All choices are in points which relate directly to inches — 72 points being exactly one inch.

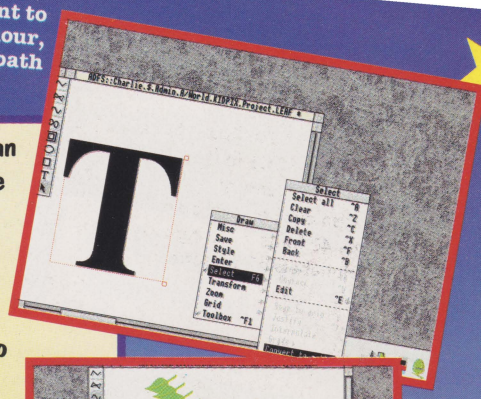
You can use any font you want, but we'll start with Trinity Bold, so select this from the Font Name option under the Text Style Menu. Why not change the colour to light blue and the line colour and thickness to 1 point dark blue? To do this you'll have to Select the letter and via the Style menu choose the Covert to Path option. This means that the text can no longer be edited though. Save your work so far.

Now we're going to drape the leaves over the letter.

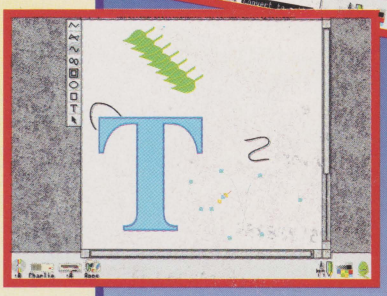
Draw a selection of swirls with a line thickness of 1 point and move these on to your letter T. If you want a swirl to go behind the letter, Select it and use the Back option from the Select Menu. Use zoom here to give you a better view.

You can now drag your leaves on to the swirls on the letter. You can make the leaves smaller by changing the size. To do this drag the bottom handle of the select box and rotate them using the top handle. You'll probably have to change the line width to 1/2 point too. Save your design as it progresses.

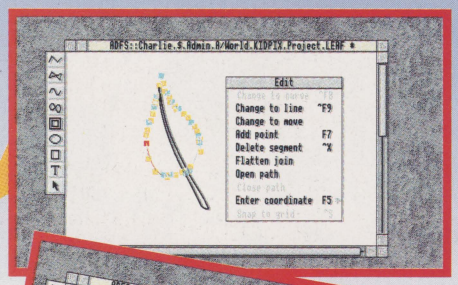
You can leave this as it is or add a box or oval. You can now print it out or put it into a letter, card or anything which will take a draw file.



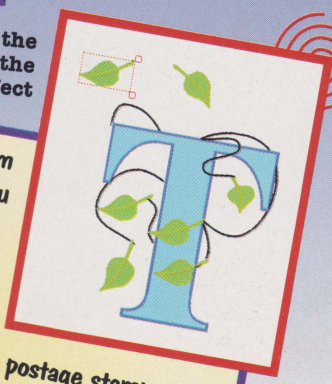
If you want to change the colour, Convert to path



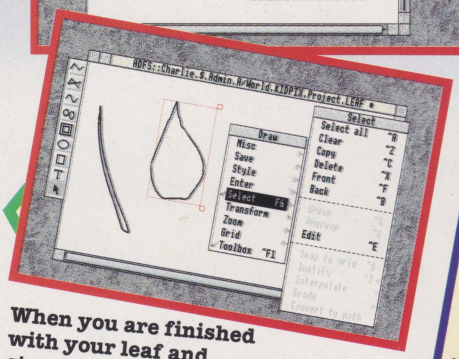
Time to add the swirls



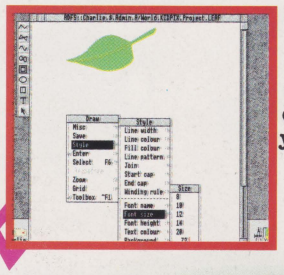
Use the control points to make the leaf the shape you want



Rotate the leaves for the best effect



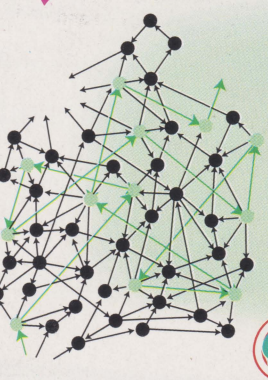
When you are finished with your leaf and stem, move them into position



Happy with the colour, its time to construct your letter

Answers

1. Josies ear-ring, Jims smile, Extra plate on back wall, Colour of pictures on right wall, Colour of vase, Height of chair in foreground, Bow in Josies hair, Pipe on back wall
2. D
3. Swarm of Bees, Gaggle of Geese, Pride of Lions, Shoal of Herring, Flock of Sheep, Herd of Cows, Hoot of Owls, Murder of Crows, Pod of Whales
4. CHIPS
5. A – Manchester, B – Aberdeen, C – Glasgow, D – London, E – Birmingham, F – Torbay, G – Carlisle, H – Brighton, I – Cambridge, J – Cardiff
6. Sheep, Pepper, Raspberry, Yam, Man, Nose, Elephant, Teapot, Tree, Envelopes



Primary schools, and 'Publisher' fonts which come in a RISC OS font and a Type 1 font with identical encodings. Also on show will be a range of over 40 fonts, covering all the native alphabets of the former Soviet Union.

Stand 50
EPS Events

Barley House
Barley Close
Sibford Gower
Banbury
OX15 5RZ
Tel: (01295) 788386

EPS Events are Show Managers for Acorn World. Should you have any questions or ideas on improving any aspect of the show promotion or presentation they would be pleased to talk to you.

Stand 118
ExpLAN

St Catherine's House
20 Plymouth Road
Tavistock
Devon
PL19 8AY
Tel: (01822) 613868

ExpLAN will be launching two packages at the show: *Occasion*, a new multi-user networkable diary system and *HolyBible*, a multimedia, multi-version bible.

Stand 23
Fabis Computing

Sarford House
Swadlincote
Derbyshire
DE11 9SL
Tel: (01283) 552761

EasyFont 3 – the font management system. Amazing new features include a dedicated font filer which achieves up to 40% disc space saving with no speed loss, groupings of fonts and a unique feature which must be seen to be believed...

Stand 40
GamesWare

Worthy House
High Street
Hamble
Hants
SO31 4HA
Tel: (01703) 456 523

As the leading developer of Acorn games, GamesWare will be showing its ever increasing range. New for Acorn World: *Wavelength* a space-age shoot 'em up, *Zodiac* four game compilation and *Playdays* fun educational software based on the BBC TV series.

Stand 88
The Guardian Newspaper

119 Farringdon Road
London
EC1R 3ER
Tel: 0171-239 9851

This stand will be displaying the *Education Guardian* and other education products from *The Guardian* newspaper portfolio.

Stand 94
Hampshire Microtechnology Centre

Connaught Lane
Paulsgrove
Portsmouth
PO6 4SJ

Hampshire Micotechnology Centre is a rapidly developing software house that also provides consultancy, training and technical support for schools. Products include the acclaimed and now improved Usborne Exploring Nature CD-ROM, The Greeks multimedia pack, Nutrients diet analysis pack and a wide variety pf primary and special needs software including *InTouch*. Exciting CD-ROM and disc-based products are under development for Careers, Art, Science and Geography.

Stand 126
HCCS Associates

575 – 583 Durham Road
Gateshead
Tyne and Wear
NE9 5JJ
Tel: 0191-487 0760

HCCS is showing the very cost-effective Vision24 – the only 24-bit colour digitiser for under £100.

Stand 72b
HS Software

56 Hendrefolian Avenue
Sketty
Swansea
SA2 7NB
Tel: (01792) 204519

Come and try our wide range of entertaining educational games for the Archimedes and Risc PC. All game discs will be only £5 each, or 'Pick & Mix' and 10 discs for £39.95, saving up to 70 per cent off normal prices.

Stand 117
Icon Technology

9 Jarrow Street
Leicester
LE2 7DH
Tel: (01533) 546642

Icon Technology will have a much revamped *Talking StartWrite*, a word processor which speaks words as they are typed and which has proved useful for pupils with learning difficulties. *TechWriter* and *EasiWriter* have both been updated and now include OLE, a button bar and background printing.

Stand 75
IFEL

34 Culver Road
Saltash
Cornwall
Tel: (01752) 847286

IFEL will be showing its usual extensive range of RAM upgrades for the entire Acorn range, including 8Mb upgrades for the Archimedes. Also on show will be ARM3 cards for a number of machines.

Stand 76
Integrex Systems

Church Gresley
Swadlincote
Debyshire
DE11 9PT
Tel: (01283) 550880

Integrex will show the latest colourjet printers from its own production lines plus colour solutions from Canon and Hewlett-Packard showing for the first time Canon BJC 4000 colour inkjet. 24-bit colour scanners from Integrex and Canon will also feature.

Stand 87
Iota Software

Iota House
Wellington Court
Cambridge
CB1 1HZ
Tel: (01223) 566789

On this year's stand Iota launches *The Complete Animator*, a full animation package that comes with a full-length video on animation. Plus a new 24-bit colour scanner for just £499 including software. Don't miss the special offers.

Stand 90
Irlam Instruments

Bioengineering
Brunel University
Uxbridge
Middlesex
UB8 3PH
(01895) 811401

The widest range of colour scanners will be demonstrated including mini-flat-bed and 24-bit hand scanners, right up to professional A4 flat-beds with transparency adaptors. A new combined 24-bit digitiser and 16-bit sound sampler will be shown for the first time.

Stand 95
ITAL Training and Development

Heath Training and Development Centre
Free School Lane
Halifax
HX1 2PT
Tel: (01422) 357832 ext 252

ITAL will be selling its 'Opening doors on IT capability' packages; integrated collections of text and graphics linked by a theme. The packages are designed to allow students to demonstrate higher levels of IT capability. Come and find out how.

Stand 93
Ivoryash

14 Perwell Close
Breden
Tewkesbury

Gloucestershire
GL20 7LJ
Tel: (01684) 73173

Acorn World will be the stage for the launch of *Textease*, the new presentation software for Acorn computers. With the latest, easy to use interface, *Textease* is suitable anywhere text and graphics is required – letters, posters, notices.

Stand 39a
KCS Premier

73 Chapel Street
Leigh
WW7 2DA
Tel: (01942) 671111

KCS Premier will be selling a wide range of computer consumables, from inkjet refills to hard discs. Special show offers will include ready-formatted floppy discs and a 500Mb hard disc for £150.

Stand 7
Krisalis Software

Teque House
Masons Yard
Downs Row
Moorgate
Rotherham
S60 2HD
Tel: (0709) 372290

Amongst the tons of bargains and special offers, Krisalis is premiering the hit game of 1994; *Cannon Fodder*. There are treats in store for new Risc PC owners with a special *Lemmings* double pack and the stunning conversion of *SimCity 2000*.

Stand 119
Kudlian Soft

8 Barrow Road
Kenilworth
Warwickshire
CV8 1EH
Tel (01926) 851147

Kudlian Soft is well known within the education market for producing software that supports a wide range of curriculum activities. Software titles include: *DataSweet 2*, *Banner*, *Splosh*, *Pictogram*, *Calendar* and we now have a new tiling application called *RepTile*.

Stand 58
Lindis International

Wood Farm
Linstead Magna
Halesworth
Suffolk
IP19 0DU
Tel: (01986) 785460

CableNews II: powerful presentation and multimedia software; *Presenter GTi 16v* the original and still the best graphing software; *CADmust*: electronics design in two versions – educational and professional; Polaroid LCD panels for audio-visual multimedia use.

Stand 77
Longman Logotron

124 Cambridge Science Park
Milton Road
Cambridge
CB4 4ZS
Tel: (01223) 425558

Longman Logotron will be demonstrating new and existing software for the educational and professional markets. New packages include *Eureka 3* – the latest version of Longman Logotron's state-of-the-art spreadsheet package and *Revelation ImagePro 24-bit* – a new Risc PC version of the successful painting and image processing package.

Stand 125
Look Systems & The Font Company

47 Goodhale Road
Bowthorpe
Norwich
NP5 9AY
Tel: (01603) 748253

Outline fonts: hundreds of world-class typefaces from Monotype, URW, Letraset and ITC. Cartoon clip art to add sparkle to your documents. *Font Directory* to manage your font collection. *Disc Rescue* to repair broken discs. Colour printers and multi-sync monitors.

Stand 122
Management Graphics

67 Suttons Business Park
Reading
Berkshire
RG6 1AZ
Tel: (01734) 353100

Bitfolio ClipArt – showing at Acorn World this year will be the highly successful Bitfolio Edition 6CD. Edition 6CD contains over 2000 British produced images all stored as colour DRW files. All images are drawn, not scanned, for the highest quality and are compatible with most Acorn graphic/DTP packages.

Stand 36
Micro Aid

Kildonan Courtyard
Barrhill
South Ayrshire
Scotland
KA26 0PS
Tel: (01465) 82288

Our software for business, domestic and educational needs includes accounts packages, payroll and mailing, family history system and educational programs including Flags, French abroad, international Hangman and Statrack. Consumables include discs, boxes, labels, mats, cleaners, ribbons, monitor screens and cables.

Stand 4
Millipede Electronic Graphics

Cambridge House
Hargrave
nr Bury St Edmunds
Suffolk
IP29 5HS
Tel: (01284) 850351

Millipede produces top performance videographics hardware for the Acorn range of computers. On display is APEX Imager; a high specification broadcast standard video graphics expansion board. Also, a first glimpse of AlphaLock, a quality genlock/overlay adaptor for the Risc PC.

Stand 57
Minerva Software

Minerva House
Baring Crescent
Exeter
EX1 1TL
Tel: (01392) 437756

New releases include *PrimeMover*, the first real-time animator and *Map Importer* for importing Ordnance Survey digital map data. There will be many special offers on our popular range of software including *PrimeSolver*, *CADet*, *Keyboard Trainer*, *Ancestry* and *Linkword Languages*.

Stand 71 & 89
Nelson Multimedia

Nelson House
Mayfield Road
Walton on Thames
Surrey, KT12 5PL
Tel: (01932) 252497

Nelson Multimedia is a division of Thomas Nelson. Set up in September 1993 following acquisition of Interactive Learning Products it has already produced CD-ROM titles for secondary schools; science, humanitites and many more.

Stand 42a
Neurotron Software

Birch Tree House
The Street
Petham
Canterbury
Kent
CT4 5QU
Tel: (01227) 700516

This year we will be selling and demonstrating version three of our powerful OCR software. New releases include a versatile multimedia database and a filer extension application. A new book teaching PROLOG (an Artificial Intelligence language) will also be available.

Stand 92
New Media

12 Oval Road
London, NW1 7DH
Tel: (0171) 916 9999

New Media will be demonstrating its award-winning multimedia programs

The Chemistry Set (an interactive library and encyclopedia of chemical information) and the *World of Number* series (designed to encourage the understanding of essential numerical concepts).

Stand 73
Northwest Semerc

1 Broadbent Road
Watersheddings
Oldham
OL1 4LB
Tel: 0161-627 4469

New from Semerc are Informatrix, a super high resolution overlay keyboard, based on the popular concept universal 2010 model; *Informax*, the latest in overlay designer software for Informatrix, and Resound, the powerful new sound digitiser for the Acorn platform.

Stand 49
Norwich Computer Services

96a Vauxhall Street
Norwich
NR2 2SD
Tel: (01603) 766592

Meet the publishers of *Archive* – the Acorn user group magazine – for the latest news on the Risc PC and hardware/software developments. Come and talk to our technical experts. Free Archive mouse mat with every 12 month subscription.

Stand 24a
Oak Solutions

Dial House
Chapel Street
Halton
Leeds
LS15 7RN
Tel: (01132) 326992

Oak Solutions will be demonstrating *Apollonius*, its revolutionary parametric CAD program that combines Olympian power with spartan simplicity. Also on display will be *Genesis* for multimedia authoring, *Rephorm* – the ultimate morpher, plus a range of CAD and curriculum applications.

Stand 52
Oregan Software Developments

36 Grosvenor Avenue
Streetly
Sutton Coldfield
B74 3PE
Tel: 0121-353 6044

A visit to the Oregan stand is essential for those with an interest in sound and graphics, where new versions of *PhotoTouch*, *Morpheus*, *Symphony* and *AppleFS* are on demonstration. Witness the launch of three exciting new leisure titles: *Burn Out*, *Sally & Wally* and *Arcturus*.

Stand 46
Pineapple Software

39 Brownlea Gardens
Seven Kings
Ilford
Essex
IG3 9NL
Tel: 0181-599 1476

Pineapple's acclaimed painting package, *Studio24*, will be on show, with the talented artist Walter Briggs demonstrating its use. The author of *Studio24* will also be available to explain some of the program's more esoteric features. In addition, Pineapple will be selling the latest virus protection systems, and a new schools administration application.

Stand 21
Porters Primary Software

138a Harvey Clough Road
Sheffield
S8 8PG
Tel: (01142) 582878

Porters Primary Software produces easy to use and affordable educational software. On show will be our popular *Infant Windows*, *Junior Windows*, *Primary Collection* and *Turtle*, and new packages *Protector* and *Sorter*. Our software contains something for all ages and abilities.

Stand 35
Powerslave Software

PO Box 175
Enfield
Middlesex
EN2 6RD

UK launch of the officially licensed Acorn conversion of the popular game *Wolfenstein 3D*. Special launch price at the show £25, or £30 by mail order.

Stand 123
Quantum Software

35 Pinewood Road
Deans
Livingston
Scotland
EH54 8NN
Tel: (01506) 411162

Quantum Software will be selling v3.06 of its best selling utility – *Keystroke*, the hugely popular 'Macro Making' application at a special show discount price. It is also showing for the first time *Blinds*, a sophisticated professional pinboard-type program that has user-definable multiple windows.

Stand 5
Quill Marketing

11 Hemmings Close
Norwich
NR5 9EH
Tel: (01603) 748003

Quill Marketing will be showing the largest range of textile transfer papers in Europe.

Stand 93
The Really Good Software Company

39 Carisbrooke Road
Harpenden
Herts
AL5 5QS
Tel: (01582) 761395

Launched at the show, *Softcrete* software protection utility will interest schools, software manufacturers, programmers and anyone wishing to limit unauthorised use or piracy of programs. Also being demonstrated: *Notes*, *Twilight*, *Z-Link II* and the popular *Picture Book*, *Money Matters*, *Target Maths* and *Dataword*.

Stands 53 & 96
The Resource Centre

51 High Street
Kegworth
Derby
DE74 2DA
Tel: (01509) 672222

On Stand 53: See the new Discovery 2000 Risc PC with specially-written software including *TalkWrite*, *ClockWork*, *EasiCalc* and *BigDesk*; and much more. Experience *Dragon Droom's Revenge*, the latest of Derek Allen's classic adventures. *EasiWriter* and *TechWriter* can also be seen on this stand.
At Stand 96: Educational software for home and school. Visit *Albert's House* for language work, logic and deduction. Splash into *Pond* for early number work. Call the *Supermarket* to learn about money. Try *TalkWrite* for word-processing from first words to local newsheet.

Stand 85
S J Research

J1 The Paddocks Ltd
347 Cherry Hinton Road
Cambridge
CB1 4DH
Tel: (01223) 416440

SJ Research is holding a network design help clinic on its stand this year. It also intends to demonstrate product development such as performance enhancements and using Reply, Nexus Discless-clusters and fast network printing using the Risc PC 486 card.

Stand 59
The Serial Port

Burcott Manor
Wells
Somerset
BA5 1NH
Tel: (01749) 670058

We will be showing the latest versions of our comms products: *Arcterm*, *ArcBBS*, the dual serial card and our modem bundles. There will also be a preview of a 3D design program for ray-tracing and rendering object/scene design.

Stand 63

Serious Statistical Software

Lynwood
Benty Heath Lane
Willaston
South Wirral, L64 1SD
Tel: 0151-327 4268

Our products *1st, 1stJr* and *1stL* are the outstanding statistical packages for Acorn computers. We shall be demonstrating the latest versions. All have excellent graphics capabilities and robust interfaces to other numerical software.

Stand 42

Sherston Software

Angel House
Sherston
Malmesbury
Wiltshire, SN16 0LH
Tel: (01666) 840433

Leading educational publisher Sherston Software will demonstrate some inspiring new releases including *Rosie and Jim* talking activity programs and *Oxford Reading Tree* talking stories. Visitors to Acorn World will have the opportunity to tackle its highly acclaimed *Crystal Maze* computer program.

Stand 27

Sibelius Software

4 Bailey Mews
Auckland
Cambridge, CB5 8DR
Tel: (01223) 302765

Sibelius Software will be launching the new version 2.5 of *Sibelius 6* and *7*, which include not only Risc PC enhancements but also some highly sophisticated playback features, such as automatic interpretation of dynamics, tempo marks and other text in English, French and Italian.

Stand 22

Simtec Electronics

Avondale Drive
Tarleton
Preston, PR4 6AX
(01772) 812863

A complete range of memory upgrades for Acorn computers, always in stock. As all our products are designed and manufactured in house, we are able to utilise the latest technology to produce upgrades of the highest quality with unsurpassed reliability.

Stand 120

Smart DTP

36 Park Road
Duffield
Belper
Derbyshire
DE56 4GR
Tel: (01332) 842803

Our stand will include our entire range of DTP products and will feature several exciting new products. We'll be demonstrating our flagship package, *PublishArt*. Also, brought to you exclusively by Smart DTP, Fednet's latest brainstorm *Star Fighter 3000*.

Stand 29

Snap Computer Supplies

Unit 12, The Sidings
Hound Road
Netley Abbey
Southampton, SO31 5QA
Tel: (01703) 457111

Snap will have its full range of consumables and accessories at Acorn World '94. All products will be at special prices.

Stand 44

SpaceTech

21 West Woods
Portland
Dorset, DTS 2EA
Tel: (01305) 822753

Along with its range of space and graphics applications, including its weather satellite stations, Spacetech is showing the latest version of the studio quality professional artwork application *PhotoDesk*. The version demonstrated includes many new features not shown before.

Stand 16

Supreme Software Systems

21 Courtenay Close
Chapel Break
Bowthorpe
Norwich
Norfolk
NR5 9LB
Tel: (01603) 795077

Demonstrating the *Archiboard* network communication system, a cost-effective solution to network communications. Released at the show is the *Archiboard* Internet access package. Also available are demos of other products, to be fully released later this year.

Stand 14

System Insight

Units 1-3 East Burrowfield
Welwyn Garden City
Herts
AL7 4TB
Tel: (01707) 395500

System Insight is the inkjet specialist, and we will be exhibiting our full range on renowned *Inkmun* ink refill kits. We will also provide a wide variety of original cartridges alongside specialist media. We cater for all your inkjet needs.

Stand 51

TBA Software

Mead Farm
North Road
Timsbury
Bath Avon
BA3 1JH

TBA has five games to release at the show: its flagship release *Formula Two Thousand*, *Acceptable Rate of Loss*, *Cyber Ape*, *Warp Riders* and *MERP*. It will also be selling four varieties of joypads ranging from £15 to £30, and will have demos of future releases and special offers.

Stand 38

TMJ Computer Software

39a Station Road
Desborough
Northants
NN14 2RL
Tel: (01536) 762713

A fast, friendly, family run mail order and retailer, specialising in Acorn computers, peripherals and software. Educational and home orders welcome. No order too big or too small. Existing customers do come and say hello.

Stand 72d

Uniqueway

42 Crwys Road
Cardiff
CF4 4NN
Tel: (01222) 644611

Version II of *Empire*, the Acorn Replay movie editor, will be on show at the Uniqueway stand. Uniqueway will also be launching a low cost SCSI CD-ROM for the Risc PC and offering a CD-ROM cutting service. Finally, it will also be selling the RISC Disc CD-ROM, which aims to show off the capabiliities of the Risc PC.

Stand 40

VTI

Albany House
Oving Road
Chichester
West Sussex
PO19 4BH
Tel: (01243) 531194

Formerly Vertical Twist, this company will be showing a new version of its printer port sampler with *Sonor* software, CD-ROM and hard drive systems and the VTX2000 music card. Eclipse will also be on the stand with all its games including *Dune II*, the Power Pads and *James Pond II*.

Stand 63

Warm Silence Software

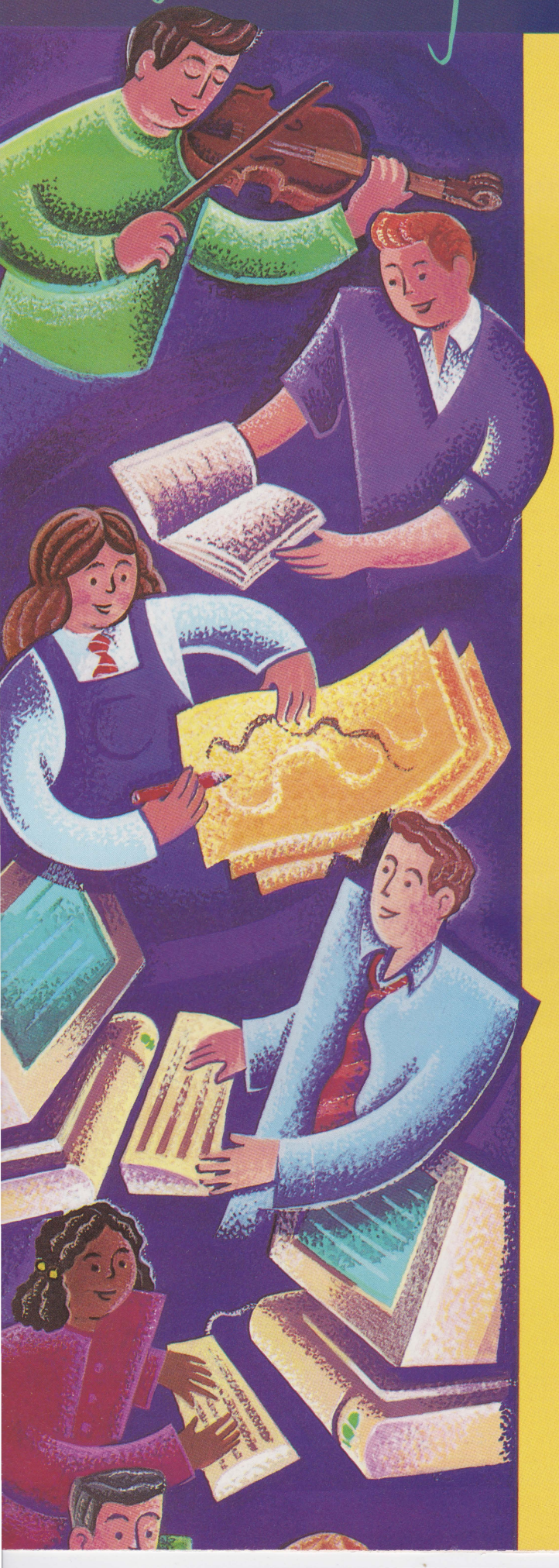
St Catherine's College
Manor Road
Oxford
OX1 3UJ
Tel: (01585) 487642

Warm Silence Software will be demonstrating a new version of the *Larger* pinboard replacement software and, a show exclusive, selling Paul Gardener's AVI movie player. Plus *Adventure Pack 1*, a set of games for the Pocket Book.

Acorn World Show Guide 1994, published by Acorn Computers Ltd in association with Europress Publications.

All registered trademarks are acknowledged

advantage



The Acorn Advantage now stretches far **beyond** computers...

ADVANTAGE TO THE SCHOOL

As an Advantage member your school will benefit from extra equipment

- Every time a registered school purchases Acorn hardware the school will be awarded Advantage points.
- These points can be collected and redeemed against a broad range of practical, school related equipment contained in the Advantage portfolio.

ADVANTAGE TO THE TEACHER

As an Advantage member you will benefit from:

- Discounts on conferences, exhibitions and seminars.
- Specially commissioned reports on major issues facing education and IT.
- Attractive training offers.
- Complimentary subscription to the highly acclaimed Arc.
- Plus much, much more...

REGISTER FOR THE ACORN ADVANTAGE NOW

Call 0181 673 5455

Acorn

THEATRE *time*

Friday

11.00 – 11.25	Introducing the Risc PC Peter Bondar – Acorn Computers
11.35 – 12.00	Set Top Boxes and the Information Highway – Online Media
12.10 – 12.35	Digital Video Editing Paul Middleton – Uniqueway
12.45 – 1.10	Talk to Us – We Talk to Everyone Mark Phillips – Acorn Computers
1.20 – 1.45	Risc PC – The Perfect Sound Andy Pierson – ESP
1.55 – 2.20	ARM'd for the Future ARM Ltd
2.30 – 2.55	Technology on the Move – Pocket Book in Education Geoff Lambrechts – Lord Grey School
3.05 – 3.30	Photo-retouching in the Hands of a Graphic Artist Stuart Watson – Chameleon Design
3.40 – 4.05	The Best of Both Worlds Alex van Someren – Aleph One
4.15 – 5.00	Technical Question Time

table

Saturday	Sunday
Introducing the Risc PC Peter Bondar – Acorn Computers	Introducing the Risc PC Peter Bondar – Acorn Computers
The Best of Both Worlds Alex van Someren – Aleph One	Photo-retouching in the Hands of a Graphic Artist Stuart Watson – Chameleon
Technology on the Move – Pocket Book in Education Geoff Lambrechts – Lord Grey School	Home and School – Providing the Missing Link Alastair Wells – Netherhall School
Photo-retouching in the Hands of a Graphic Artist Stuart Watson – Chameleon	ARM'd for the Future ARM Ltd
New Literacy – Taking IT into the 21st Century Roger Broadie – Acorn Computers	What's New in Multimedia? Peter Stibbons – Anglia TV
Set Top Boxes and the Information Highway – Online Media	The Best of Both Worlds Alex van Someren – Aleph One
What's New in Multimedia? Peter Stibbons – Anglia TV	Set Top Boxes and the Information Highway – Online Media
Talk to Us – We Talk to Everyone Mark Phillips – Acorn Computers	Meet the Editors – Acorn User Mark Moxon, Dave Matthewman
Risc PC – The Perfect Sound Andy Pierson – ESP	Technical Question Time
Meet the Editors – Acorn Computing Steve Turnbull, Mike Cook	CLOSED

THE ULTIM

IF you want to see what unlimited money and imagination can produce, then Acorn's Risc PC development team are the people to see. We gave them a top-of-the-range 7-slice Risc PC with 21in monitor and told them to fill it. You can try out the results for yourselves on the Acorn stand. Should you have the money then you could actually buy all the items which are mentioned by the end of the year – start saving.

However, there is a serious side to this exercise. One of the purported strengths of the Risc PC is its expandability and flexibility to meet your needs today and in the future. By stretching the limits of the system you can see the truth of this and that reliability and speed are unaffected.

Did you know

- Acorn Econet was first designed for the Atom on the back of a napkin in a Beefeater Restaurant in 1980.
- Acorn personnel (Chris Turner and Steve Furber) also designed the chief rival to the Acorn System One – the Science of Cambridge MK14.
- Acorn was first called the Cambridge Processor Unit.
- Acorn's first contract was to build electronic microprocessor controlled Fruit Machines for Ace Coin Equipment. Steve Furber wrote the software while Roger Wilson designed the circuits to detect attempts to confuse the logic with Piezo electric lighters, which generate a lot of interference.
- The internal code name for the Acorn System One was Hawk.

Slice One

- 50MHz ARM 710
- 192Mb DRAM
- 64Mb SIMM
- 128Mb Custom Board
- 16-bit ESP sound card
- 10 Base T Ethernet card
- 4Mb VRAM interleaved
- 420Mb IDE Conner hard disc
- 80MHz DX2 Blue Lightening Risc PC 486 card
- 103 Watt power supply

Slice Two

- 8Gb DAT HP tape streamer
- 1.6Mb floppy disc
- 2 x Cumana 32-bit SCSI II cards

Slice Three

- Pioneer Quad Speed CD-ROM drive
- 420Mb IDE Conner hard disc
- Eagle M3 Multimedia card
- TV Tuner
- Teletext Card
- 103 Watt power supply

Slice Four

- Pioneer Quad Speed CD-ROM drive
- 21Mb Floptical drive
- 2 x Irlam 24i16 cards

ATE Risc PC system

...we gave Peter Bondar a blank cheque and told him to spend, spend, spend

Slice Five

- Pioneer Quad Speed CD-ROM drive
- 230Mb MO SCSI Fujitsu hard disc
- PC ISA Adapter card
- 103 Watt power supply

Slice Six

- 9.1Gb IBM SCSI Micropils hard disc drive
- 2Gb DEC SCSI disc drive

Slice Seven

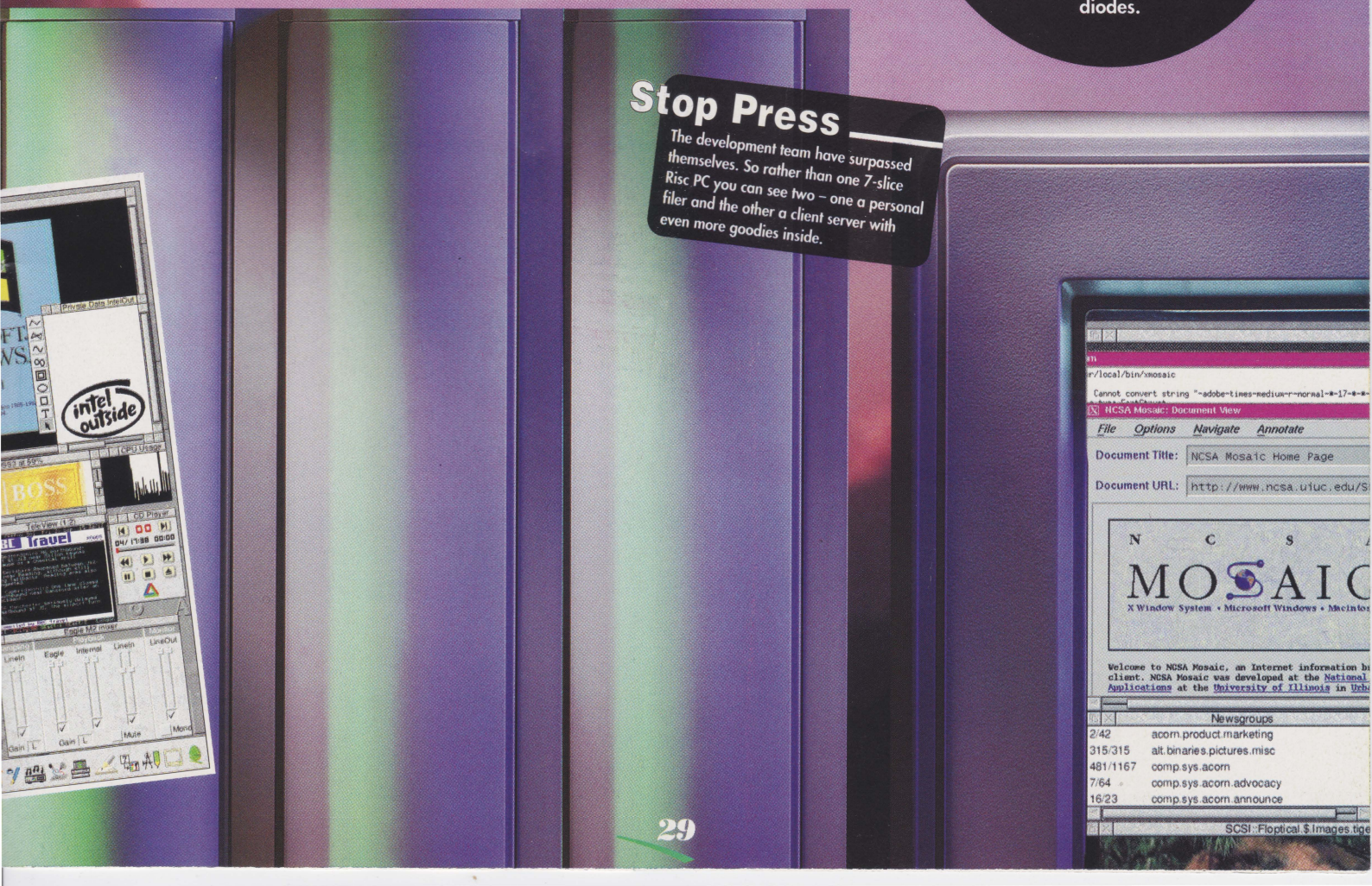
- PC ISA combination graphics cards
- Morphy Richards Toaster with automatic browning control – ideal for when you can't take a break

Did you know

● How many power supply pins does an ARM chip need? None, while measuring the power consumption of the very first ARM2 chips the meter in the power supply lead became disconnected. Much to everyone's surprise the sudden removal of power to the CPU did NOT cause it to stop working. It seems that the processor required so little power it could be kept running (just) on the current leaking through the signal inputs. For the technically minded, the substrate is supplied by current flowing through the input pin static protection diodes.

Stop Press

The development team have surpassed themselves. So rather than one 7-slice Risc PC you can see two – one a personal filer and the other a client server with even more goodies inside.



Come to the Acorn COMPUTING

EVERYBODY WELCOME

OPEN DAY

SUNDAY DECEMBER 4th – MANCHESTER

Make your way to one of the few Acorn-specific events to take place in the north. See the latest products from many different companies, chat to our experts, buy Acorn hardware, software and peripherals at the best prices and of course meet the Acorn Computing team.

See the latest Acorn developments for yourself

Find out everything you've been wanting to know, and more, about all the latest Acorn equipment, from hardware and software to accessories and peripherals. Speak to experts from a whole range of companies and, of course, **Acorn Computing** magazine.

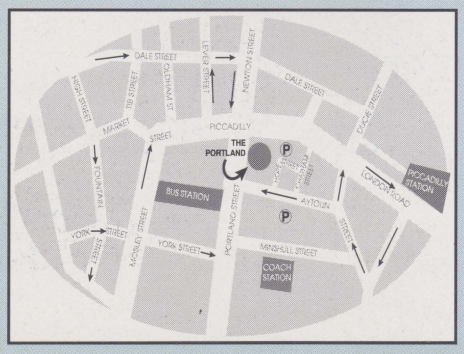
Your opportunity to buy all Acorn equipment

Not only can you gather all sorts of interesting information and the latest news, but you can actually buy products at competitive prices.

Meet the team behind the magazine

Acorn Computing will of course be there. Drop in to see us and you can pick up all sorts of technical help and advice. We'll have our **latest, Christmas issue on sale and a special subscription offer**. You can **meet the editors**, maybe just to say hello, or to chat about the magazine.

All in all it'll be a great day out for everyone. Entrance is only £1 and under 12s get in free. See you there!



Acorn COMPUTING

OPEN DAY
SUNDAY
DECEMBER 4th
10am TIL 4pm

LAKELAND SUITE
PORTLAND HOTEL
MANCHESTER
CITY CENTRE
NEAR PICCADILLY

ENTRANCE
ONLY £1
UNDER 12s FREE

NCP car park behind the hotel, others nearby. Across the road from Piccadilly bus station – 4 minutes walk from Piccadilly train station.

...Clan Acorn '94 brings you information and an inside look at Acorn technology

ACORN *enthusiasts*

ACORN World '94 sees the introduction of a brilliant new initiative aimed at those interested in the inside story of Acorn and its technology. For a mere £15 you can take out a lifetime membership to the Acorn Enthusiasts' Scheme – Clan Acorn '94 – which gives you the inside track on Acorn developments.

Sign up at Acorn World '94

And you'll receive:

- An exclusive Clan T-shirt
- Risc PC enamel lapel pin
- Clan mousemat
- Enthusiasts' disc including Advanced Risc Machine's ARM Cookbook
- A folder of information about products and technologies being developed and researched by Acorn

PLUS

You'll get a limited edition Clan Acorn '94 Risc PC sweatshirt and have the chance to win one of THREE Acorn prototype boards for the Risc PC:

- Simtec multiprocessor board
- ARM 700 with FPA processor card
- High specification PC card

In addition Clan Acorn '94 members will find out about: The Taos operating system – Why is a portable micro-kernel causing so much interest? Multiprocessing with the Risc PC – Exclusive technical details of Simtec's multiprocessor board; CD-Rom for the Risc PC – Something to fill you spare 5.25in drive bay; ARM7x0 series of processors – Is an ARM710 or ARM700 the right processor for you? FPA II floating point; !X – Turn your Risc PC into an X terminal; Acorn networking – Discover how Access+ is redefining easy-to-use high performance networks; Communications – Email and Newsreaders from RISC OS; Interconnectivity – How one piece of network software enable RISC OS machines to talk to servers from Microsoft, Novell and Unix; Risc PC 16-bit sound upgrade – Take the sound output from the Risc PC to CD quality; Pocket Book II – The original Acorn Pocket Book now has a big brother. Find out what's changed and pop along to the Enthusiasts' seminars – The chance to get the technical details of the Risc PC from the designers.

Also not to be missed

The Enthusiasts' stand is also the place to get the low-down on the technology behind the Acorn World '94 Audio Visual Gallery as well as the place to examine Peter Bondar's super-expanded Risc PC Rocket Ship.

As a Clan Acorn '94 member you'll receive a membership card, offers from Acorn dealers, a newsletter containing up-to-the-minute information about technology, products and developments from Acorn

As a select group, Clan Acorn '94 members will be able to try out pre-production products, developments systems or beta releases.

Among the first offers to members will be the chance to have an Acorn credit card and an opportunity to come to CeBit with the Acorn team. For the latest news, Acorn is encouraging all its enthusiasts to connect to the Internet and join in the discussions on comp.sys.acorn and watch the announcements on comp.sys.acorn.announce.

A new term and a Pocket Book II

As you start the new school term, full of optimism for the year ahead, whether you are a teacher, administrator or a student you will find the Pocket Book II an indispensable aid.

The Pocket Book range now includes two new products, both with:

- Larger screen
- Higher screen resolution
- Larger memory
- Larger range of pre-installed software

For more information and a free copy of the Pocket Book Research Report complete the coupon and send it to Online Services, Acorn Computers Limited, FREEPOST (NW5643), Enfield, Middlesex EN1 3BR or call us on FREEPHONE 0800 800 480.

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PB/ARC/94

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Simon Woodward details the impact made by Acorn products on the small printing and publishing industry

DTP *in the real world*

THERE are around 17,000 printing organisations in the UK plus thousands of small publications. Most are small organisations of less than ten people who realise that computer-based publishing systems provide them with an opportunity to refine their production and increase their efficiency. Three years ago, Acorn Computers made the decision to address this market by providing a range of publishing systems offering considerable advantages over other products and platforms.

These systems are now based on the Risc PC 600 and at Acorn World '94 you can see the significant productivity gains they can deliver.

In the publishing area we have recreated the combined businesses of a small publisher and printer. Using the Risc PC 600 and the 32-bit RISC based Acorn publishing system, we can produce and print full colour materials on the AB Dick Ruby 3000 two-head colour press. This will allow you to examine the complete process and see what goes on in these businesses on a day-to-day basis.

Acorn has established strong links with AB Dick – the international press, pre-press and finishing product supplier. AB Dick is working with Acorn as its only supplier of digital pre-press products and sells complete publishing systems to its customers, under the name Graphtex. The systems are targeted, depending on configuration, at both full colour or monochrome and spot colour applications. This creation of a complete computer-based system avoids the complexity and confusion which has been traditional in this area.

No less important to Acorn is its relationship with the developers, whose products make-up or enhance the competitiveness of the complete publishing system. Many of these developers are at the show demonstrating new products and enhancements to existing software and hardware.

The scanning maze

During the past year one technical issue has cropped up again and again – scanning. On the face of it, scanning is a simple task of taking a piece of artwork and converting it into a form which enables it to be stored in computer memory and used through a variety of computer applications.

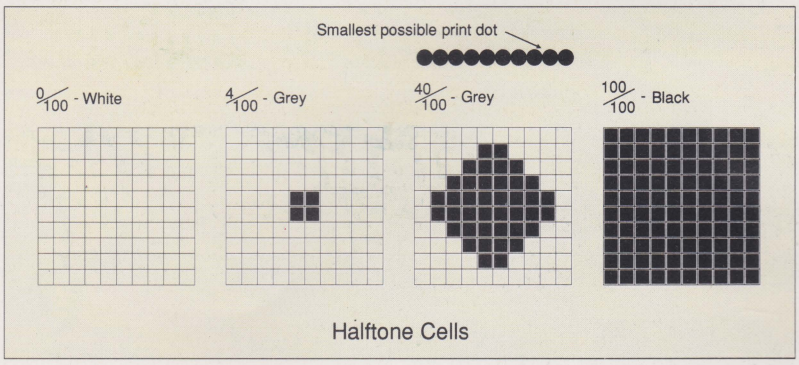
The majority of problems centre on the quantity of data created by this form of image storage. It is only too easy to scan an image and create an enormous file which may: be too large for the computer to load into any application, take an age to print, use up large areas of disc storage space or produce vast amounts of PostScript for a PS printer or image-setter.

How do you make the most of the equipment you've got? Most of the solutions can be put down to forward planning. However, you do need to know something about how images are printed.

The first thing you need to understand is how half tones are built, which is on a raster-based printer or image-setting device. *Raster*, in this case, refers to devices that build up the printer page from a series of black dots typically at a resolution of 300, 600 or 1,200 dots per inch (dpi) if it is a laser printer.

A *halftone* is the name a printer uses when talking about black and white photographs or artwork in a newspaper, magazine or other printed documents. The halftone image is built up from a series of black dots which vary in size giving the impression of light and dark.

Imagine a matrix or halftone cell 10 units across by 10 units down. This produces a halftone cell of 100 units. As you can see from the diagram, depending on how many of the units of the



Halftone Cells

matrix are black the resulting halftone cell can represent 100 shades of black from 0 per cent black (white) to 100 per cent black (solid black). When reproducing a printed photograph, many thousands of these 100 unit halftone cells may make up the image and form the basis of the different levels of grey in the overall image.

In the case of a 600 dpi laser printer, the smallest matrix unit that the printer can reproduce is a single toner dot, 600 of which the printer can print to every inch. Such a printer could build no more than 60 halftone cells of the 10 by 10 size to each inch – 60 cells by 10 dots across each equals 600 dots per inch. So, if a 60 line per inch (lpi) halftone screen (60 halftone dots per inch) is used to reproduce a photograph, then the resultant image can contain up to a maximum of 100 levels of grey from white to black on a 600 dpi printer.

If the output resolution is effectively only 60 lpi (effective dpi), then there is no point in scanning at a resolution of greater than double this value, that is 120 dpi. On most printed matter in magazines, a typical halftone resolution is 150 lpi for either black and white or colour images. Therefore, in this case the scan resolution need be no greater than 300 dpi.

This rule only changes when the image being scanned is not being reproduced at its original size. The effect on scan resolution of scaling up the image from the original size is to pro rata increase the scan resolution, or decrease should you be scaling down. For instance, if you are aiming to reproduce a photograph twice the size of the original, the scan resolution should be doubled. This is typically the reason for using higher resolutions on common scanners.

The colour depth of the scan should always be 8-bit (256 greys) for a black and white image and 24-bit (16.7 million colours) for colour images. Here are a few simple guidelines:

- Full professional level black and white printed images utilise no more than 256 grey levels
- Images, like landscapes, which contain many fast transitions from dark to light require few levels of grey to be realistic. As little as 60 greys may produce a very acceptable result.
- Images containing subtle transitions from dark to light – photos of machinery, furniture, skin tones and so on – require the maximum number of greys possible on any given output device, up to a maximum of 256 greys. Unless an image-setter is being used offering a resolution of at least 2000 dpi, there will always be a trade off between halftone line resolution and the number of greys:

$$NG = \left(\frac{PR}{LPI}\right)^2 \quad \text{or} \quad LPI = \frac{PR}{\sqrt{NG}}$$

Where:
NG = Number of greys
PR = Printer resolution
LPI = Halftone lines per inch

When dealing with a full colour image, the same rules apply except that we are then dealing effectively with 256 levels on each on the four primary printing colours – Cyan, Magenta, Yellow and Key (Black) most normally referred to as CMYK.

Application

A good discipline, for those new to scanning, is to set yourself a series of questions to resolve what resolution to scan at as a maximum:

1. How many greys do we need in our final image (size of halftone cell) to see a pleasing result? *Number of greys*
2. Up to what resolution is the output device (printer or image setter) capable of working? *Printer resolution*

Calculate the required halftone screen resolution in lines per inch. Double this number to get a base scanning resolution.

3. At what physical size will the image be reproduced?
4. What is the physical size of the original which is to be scanned?

Modify the base resolution by the ratio of original size (answer to 4) to reproduced size (answer to 3). The result will be the resolution at which you should set the scanner when carrying out the final scan.

To demystify all this, come to the Acorn Professional Publishing exhibit, where the Technical Support Group can answer your questions. Also why not attend the DTP-related discussions in the Theatre.

Come to the stand

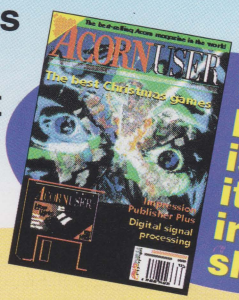
ACORN USER

The magazine for all users of 32-bit RISC OS computers

Special subscription offer – exclusive to Acorn World '94

Only £9.50 per quarter

Get either *Sensible Soccer* or the exclusive *Acorn User Gift Pack* (comprising a buyers guide book, *Cyber Chess* game, education and shareware discs) plus a pack of ten discs absolutely free when you subscribe to *Acorn User* for a year or by continuous quarterly direct debit for only £9.50. Subscribe at our stand and you'll receive your free gift there and then.



Get your December issue before it's on sale in the shops!

Q & A

Expert technical advice from the editors is available throughout each day – totally free!

See Acorn User produced on an Acorn machine

Watch the best-selling Acorn magazine in the world designed and produced on an Acorn machine by our editors.

Enter the Acorn User Games Challenge

Flashback and *Scrabble* competitions will take place in hourly sessions throughout each day. The three best scores each session will receive a copy of the game they have played – on the spot.

Plus – there's also a prize at the end of each day for the overall highest score for each game. The winners will be announced after the last session each day and can take their prizes away with them.

Plus...

The Lucky Dip competition

There are over 10,000 prizes to be given away on stand 54. Every entry is a winner – instantly! Prizes range from mugs, to software, to computers. Entry costs just 20p for two dips – all the proceeds will go to charity; Guy's Hospital & St Thomas' hospital trust in London.

Pocket Book II competition

Entry forms are on our stand. All you have to do is note where the jigsaw pieces of a Pocket Book picture are scattered throughout the show – and you could win one of your own – there are six up for grabs; two each day. We'll announce the winners at midday and near the end of each day.

LOOK SYSTEMS

The Monotype Font Library
URW Typeface Packs
LetraSet Typeface Packs
Medieval and Gothic Fonts (Pack One)
Medieval and Gothic Fonts (Pack Two)

Bitfolio Cartoons
Bitfolio More Cartoons
Bitfolio Christmas
Bitfolio Clip Art 6 CD

Font Directory
Archimedes Disc Rescue

Datafile Public Domain CD One
Datafile Public Domain CD Two

17" multi-sync monitor
20" multi-sync monitor

Stand 125